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ABSTRACT

The results of two surveys are summarized in this research report. They include: (1) an interview survey of a sample of employers of 100 or more personnel in four of Indiana's Planning and Development Regions, and (2) a questionnaire survey of a sample of companies employing from 50 to 100 personnel. The surveys were conducted in the summer of 1975 with the goal of identifying the views of business and industry in the state concerning the employability of college graduates. The results indicate that: employers in the state are not having difficulty in finding college graduates to fill their available positions; the factors considered of primary importance were not directly related to academic performance but involved communication skills and previous work experience; too many college graduates were basically unfamiliar with the nature of business-industry and the nature of the work to be performed; respondents generally favored hiring graduates with major fields of study closely related to the occupation pursued, especially if he also were strong in communication and human relations skills; many graduates may be forced into positions of underemployment; employers would not recommend underemployment, although a majority seemed to be practicing it. (LBH)

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EMPLOYABILITY OF COLLEGE GRADUATES IN INDIANA BUSINESS AND INDUSTRY

INDIANA COLLEGE-LEVEL MANPOWER STUDY

Report Number Five

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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INDIANA COLLEGE-LEVEL MANPOWER STUDY

Report Number Five

EMPLOYABILITY OF COLLEGE GRADUATES IN INDIANA BUSINESS AND INDUSTRY

by

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February, 1976

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INDIANA COLLEGE-LEVEL MANPOWER STUDY LIST OF PUBLICATIONS

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1. Review of Literature Related to College-Level Manpower Study for the State of Indiana, January, 1975

2. Educational Plans and Career Choices of High School College Preparatory Students in Indiana, October, 1975

3. Educational Plans and Career Choices of Bachelor's Degree Recipients in Indiana, November, 1975

4. Educational Plans and Career Choices of Associate Degree Recipients in Indiana, December, 1975

5. Employability of College Graduates in Indiana Business and Industry, February, 1976

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We are indebted to many individuals and organizations for their help and support in completing this study. Gratitude should first be expressed to the many representatives of Indiana business and industrial firms who took time from their busy schedules to be interviewed or to complete questionnaires.

A number of state government agencies and business and industrial associations aided us in various aspects of conducting the study. We would like to thank the Indiana Employment Security Division, the Indiana Chamber of Commerce and the Indiana Manufacturers Association for their assistance in the initial planning of the study. Thanks are also due the Chambers of Commerce in Hammond, Fort Wayne, Indianapolis, and Evansville for their cooperation in encouraging employers within their Regions to participate in the study.

A very special expression of gratitude is owed to the four interviewers who, for a period of two months, responsibly and enthusiastically engaged in a very difficult job. We received numerous comments from respondents concerning the highly professional nature in which the interviews had been conducted, and this performance contributed positively to the overall value of the study. The interviewers were Ms. Mary Kelly, Ms. Jennifer Nelson, Mr. Steve Patton, and Ms. Jane St. Pierre.

This report is a part of the Indiana College-Level Manpower Study being conducted at the Commission through a grant from the Lilly Endowment. The Commission wishes to express its appreciation to the Lilly Endowment for its support. The views expressed in this report are those of the authors and not of the Endowment.

PREFACE

The Indiana College-Level Manpower Study is being conducted by the Indiana Commission for Higher Education to provide manpower information of value to educational planning at the post-secondary level. Factors involving both manpower supply and demand are being investigated, and educational and occupational areas in which major supply/demand imbalances exist will be determined.

This publication summarizes the results of two surveys; 1) an interview survey of a sample of employers of one hundred or more personnel in four of Indiana's Planning and Development Regions, and 2) a questionnaire survey of a sample of companies employing from fifty to one hundred personnel. The surveys were conducted in Summer, 1975, with the goal of identifying the views of business and industry in the state concerning the employability of college graduates.

The data of the study should provide valuable information regarding the demand for college graduates in Indiana's businesses and industries. The information contained in this report should be of use to educational planners, faculty members and counselors, students, and to the business and industrial firms of the state.

CONTENTS

PAGE

Acknowledgements....iv

Preface....v

List of Tables.... ix

Highlights....1

Introduction....3

Sample and Respondents....5

Needs for College Graduates in Thirteen Selected Occupations....7

College Graduates as Percentage of Total Employees....19

Influences of Major Areas of Study and Types of Experience Upon General Employability....21

Employability of Liberal Arts, Social Science, and Education Majors....25

Underemployment....29

Views Toward the Preparation of College Students for Employment....37

External Education Opportunities....43

Importance of Factors in Considering Employment Applications....47

Survey of Employers of 50 to 99 Personnel....51

Appendix A
Methodology....59

Appendix B
Interview Format....63

Appendix C
Correspondence from Commission to Sample Companies....69

LIST OF TABLES

INTERVIEW SURVEY		PAGE
Table 1:	Survey Response Rates by Region and Size of Company	5
Table 2:	Interviewed Companies by Standard Industrial Classification Title (SIC)	6
Table 3:	Projected 1980 Employment in Thirteen Occupations in Indiana	7
Table 4:	Occupation Represented in Company, by Size and Type of Company	8
Table 5:	Previous Job-Related Experience *Required* for New Hires to the Occupations by Type of Company	10
Table 6:	Educational Levels Preferred for New Hires to Thirteen Occupations	12
Table 7:	Educational Areas of Study Preferred for New Hires to Thirteen Occupations	13
Table 8:	Anticipated Changes in Educational Levels Preferred	14
Table 9:	Changes in Numbers Employed, by Type of Company	16
Table 10:	Ability to Locate and Hire Educationally Qualified People, by Type of Company	18
Table 11:	Estimated Percentage of Employees who are College Graduates, by Type of Company	19
Table 12:	Anticipated Change in Percentage of Employees who are College Graduates, by Type of Company	19
Table 13:	Influences of Major Areas of Study Upon General Employability, by Type of Company	21
Table 14:	Influence of Types of Experience Upon General Employability, by Type of Company	23

LIST OF TABLES (CONT.)

		PAGE
Table 15:	Employability of Liberal Arts, Social Science, or Education Majors with Courses of Business or Technical Nature, by Type of Company	25
Table 16:	Advisability of Person Starting at an Underemployed Position, by Size of Company	29
Table 17:	Percent of Annual New Employees who are Underemployed, by Type of Company	30
Table 18:	Desired Educational Background for a Position Requiring Only a High School Diploma, by Size of Company	31
Table 19:	Preference for Bachelor's or Master's Degree Recipient for Job Requiring Bachelor's Degree, by Size of Company	32
Table 20:	Willingness to Pay More to a College Graduate, by Size of Company	33
Table 21:	Consideration of Educational Background for Promotion, by Size of Company	34
Table 22:	Provision of External Education Opportunities, by Size of Company	43
Table 23:	Potential Recipients of External Educational Opportunities	43
Table 24:	Types of Educational Opportunities Provided	44
Table 25:	Degrees Available Through External Educational Programs	44
Table 26:	Percentage of Tuition Paid by Companies in External Education Programs	45
Table 27:	Importance of Factors in Evaluating Applications for Professional, Technical, and Kindred Positions	47

LIST OF TABLES (CONT.)

		PAGE
Table 28:	Importance of Factors in Evaluating Applications for Managerial and Official Positions	47
Table 29:	Importance of Factors in Evaluating Applications for Sales Positions	48
Table 30:	Importance of Factors in Evaluating Applications for Clerical Positions	49
Table 31:	Importance of Factors in Evaluating Applications for Foremen Positions	49
Table 32:	Rank Ordering of Importance of Factors in Considering Employment Applicants, by Occupational Category	50
QUESTIONNAIRE SURVEY		
Table 33:	College Graduates (Associate Degree or Higher) as Percent of Total Employees	51
Table 34:	Anticipated Change in Percentage of Employees who are College Graduates	52
Table 35:	Desired Educational Background for a Position Requiring only a High School Diploma	52
Table 36:	Willingness to Pay More to a College Graduate	53
Table 37:	Consideration of Educational Background in Promotion	53
Table 38:	Ability to Locate and Hire Desired College Graduates	54
Table 39:	Employability of Liberal Arts, Social Science, or Education Majors with Courses of Business or Technical Nature	54
Table 40:	Influence of Major Areas of Study Upon General Employability	55

LIST OF TABLES (CONT.)

		PAGE
Table 41:	Influence of Types of Experience Upon General Employability	55
Table 42:	Occupations for which College Graduates are Desired	56

HIGHLIGHTS

Employers in Indiana's businesses and industries are not having difficulty in finding college graduates to fill their available positions. With the one exception of engineers, fifteen percent or fewer of the employers had experienced difficulty locating and hiring educationally qualified people for each of the occupations studied. Further evidence of the availability of college graduates is provided by the fact that nearly sixty percent of the respondents expected that the percentage of their employees who are college graduates would increase, primarily because more graduates are seeking employment with them.

A number of factors were found to affect the employability of college graduates in business and industry. Surprisingly, it appears that the factors considered of primary importance were not directly related to academic performance but involved communication skills and previous work experience. The effects of the much-discussed "grade inflation" in higher education might contribute to the fact that, for five occupational categories, college grades ranked no higher than ninth in importance in a list of thirteen such factors.

The respondents believed that too many college graduates seeking employment with them are basically unfamiliar with the nature of business-industry and with the nature of the work they hope to perform. For this reason an applicant with previous work experience, particularly if related to the job sought, was much more employable than the applicant with no such experience. As a way of alleviating this problem the employers offered overwhelming support for cooperative and internship programs whereby college students would have the opportunity to gain practical work experience.

The respondents generally favored hiring graduates with major fields of study closely related to the occupation pursued. However, they often commented that overemphasis upon a specialized area in college might lead to a weakness in communication and human relations skills, which were viewed as being of great importance. They also felt that the person who had majored in a general academic area was more employable if he had taken coursework of a business or technical nature.

The topic of underemployment among college graduates has received much national attention. It is hypothesized that, as college graduates are produced in greater numbers than the available jobs requiring college degrees, many graduates will be forced to accept positions requiring lower than their level of education.

Approximately two thirds of the respondents would not recommend to a college graduate that he or she accept a position of underemployment, expressing the view that the underemployed person would become dissatisfied and frustrated with the job. However, a majority of the respondents appeared to prefer a hiring practice which could be termed underemployment.

It was generally indicated that underemployment was often by design to assess the promotability of the person, but they did not hire above educational requirements when there would not be opportunity for promotion. Though most employers were unwilling or unable to pay more to a college graduate for doing the same type of work as a high school graduate, educational background was generally an important factor in promotion consideration. The employers appeared to view the potential for promotion within a reasonable period of time as a major determinant in whether a person should be deemed underemployed.

Companies of fifty to 99 personnel appeared to differ from larger firms regarding the employability of college graduates. The most noticeable differences were in the overall nature of their employees' educational backgrounds. Lower percentages of employees in the smaller firms were college graduates, and fewer of these companies anticipated that this percentage would increase over the next few years. Though there appeared to be a variety of employment opportunities for college graduates in the smaller companies, these positions were not found in all such firms. The limitations to these opportunities were evidenced by the fact that many employers in this size range commented that they hire no college graduates and do not plan to do so in the foreseeable future.

INTRODUCTION

The business and industry sector of the economy stands out as a major employer of college graduates. A recently published report stated that 29 percent of all degree recipients were working for private companies ten years after their freshman year in college. Business and industry was surpassed in this regard only by educational institutions, which employed 35 percent of the degree recipients.[1] Since the private sector has proved to be such an important source of jobs for college graduates it is of value to investigate these employers' preferences related to the educational backgrounds of new hires.

This report deals with the employability of college graduates in Indiana's businesses and industries. It does not contain projections of the state's labor force because information is available from other sources, such as the Indiana Employment Security Division. Rather, it is concerned with the opinions of employers regarding the hiring of college graduates where educational preferences and requirements for entry to many occupations are left to the discretion of the employer.

The data of the report were acquired by means of an interview survey of a sample of employers of more than one hundred personnel in four of Indiana's Planning and Development Regions (see map on page 4). The interviewees were, in most cases, either the chief personnel administrators or other employees in the personnel departments of the surveyed companies. A mailed questionnaire survey of smaller companies was also conducted and its findings are reported in the final section of this report.

The respondents were not asked about projected hiring needs or requested to provide detailed quantitative data of any sort. It was viewed that in a rapidly changing economic situation such data are generally of short-term value. Instead, they were questioned about their preferences concerning the educational backgrounds of new hires to a series of occupations often related to postsecondary education. Questions concerning the general employability of college graduates was also asked. (A copy of the interview format in included in Appendix B of this report).

The data of this report should be of value in providing needed information relating employment in business and industry to postsecondary education. Actual demand projections for the occupations discussed are available through the reports of the Indiana Employment Security Division.[2] Supply information is available from previous reports of the Indiana College-Level Manpower Study.[3]

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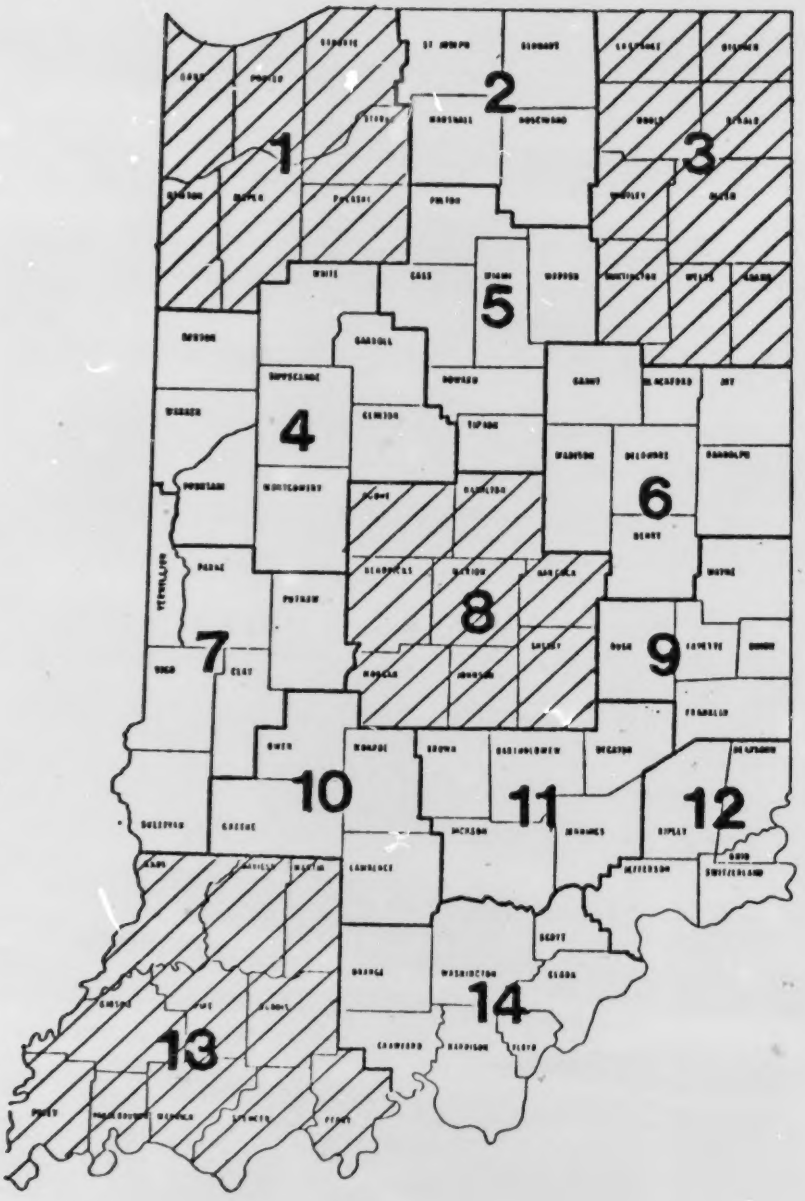
1. Bisconti, Ann Stouffer, College Graduates and Their Employers, Report No. 4, College Placement Foundation, Bethlehem, Pa., 1975.
2. Indiana Employment Security Division, Indiana's Interim Manpower Projections 1970-1980, August, 1974 (Available by statewide or regional breakdowns).
3. Indiana Commission for Higher Education, Educational Plans and Career Choices of Bachelor's Degree Recipients in Indiana, and Educational Plans and Career Choices of Associate Degree Recipients in Indiana, Indiana College-Level Manpower Study, Reports Number 3 and 4.

FIGURE 1: INDIANA PLANNING AND DEVELOPMENT REGIONS INCLUDED IN SURVEY



SAMPLE AND RESPONDENTS

The sample members were selected and contacted as described in the discussion of the study methodology (Appendix A). A number of the sample members who indicated that they preferred not to participate noted that they employed very few college graduates and they felt that the study would not be relevant to their concerns. For this reason some aspects of the study findings may be biased toward companies which employ larger numbers of college graduates. Response rates by Region and size of company are presented in Table 1.

TABLE 1: SURVEY RESPONSE RATES, BY REGION AND SIZE OF COMPANY

	Sample	Respondents	% of Sample Participating
Region			
Region 1	149	67	45.0
Region 3	118	68	57.6
Region 8	110	71	64.5
Region 13	98	68	69.4
Size			
100-249 employees	180	81	45.0
250-499 employees	145	78	53.8
500-999 employees	89	66	74.2
1,000 + employees	61	49	80.3
Total	475	274	57.7

In all, 274 interviews were conducted, representing 58 percent of the total number of companies initially contacted. It is apparent from the data of Table 1 that there was a greater tendency for larger companies to participate in the study, and also that the rates of response from the four Regions differed noticeably.

TABLE 2: INTERVIEWED COMPANIES, BY STANDARD INDUSTRIAL CLASSIFICATION TITLE (SIC)*

Short SIC Title and Code		Number of Companies
	Mining, Manufacturing and Construction	
10-14	Mining	3
15-17	Contract construction	10
20	Food and kindred products	9
22	Textile mill products	1
23	Apparel and other textile products	5
24	Lumber and wood products	2
25	Furniture and fixtures	13
26	Paper and allied products	6
27	Printing and publishing	9
28	Chemicals and allied products	9
29	Petroleum and coal products	7
30	Rubber and plastics products, nec	10
32	Stone, clay, and glass products	10
33	Primary metal industries	23
34	Fabricated metal products	22
35	Machinery, except electrical	20
36	Electrical equipment and supplies	19
37	Transportation equipment	17
38	Instruments and related products	3
39	Miscellaneous manufacturing industries	3
Subtotal		(201)
	Nonmanufacturing	
40-49	Transportation, communication, electric gas, and sanitary services	16
50	Wholesale trade	5
52-59	Retail trade	16
60-67	Finance, insurance, and real estate	22
70-79 89	Services (excluding: health, legal, educational, and nonprofit membership organizations)	9
93	Municipal utilities	5
Subtotal		(73)
Total Respondents		274

*SIC titles were used in drawing the survey sample and interpreting the data received. Response rates of sixty percent from manufacturing companies and 52 percent from nonmanufacturing companies were achieved.

NEEDS FOR COLLEGE GRADUATES IN THIRTEEN SELECTED OCCUPATIONS

Data produced by the Indiana Employment Security Division (I.E.S.D.) and the Bureau of the Census were used to determine thirteen occupational types which include large numbers of the college education personnel working in Indiana businesses and industries. A college degree is *not required* for entry to any of these occupations but, based upon data available, it was apparent that many college graduates enter them, at least for limited time periods.

Table 3 presents the I.E.S.D. projection to 1980 for employment in Indiana in each of the thirteen occupations.

TABLE 3: PROJECTED 1980 EMPLOYMENT IN THIRTEEN OCCUPATIONS IN INDIANA

Occupations	1980 Employment Projections
Engineers (technical)	29,499
Scientists (life & physical)	5,003
Technicians (non-health)	27,062
Computer specialists	4,785
Accountants	17,972
Personnel & labor relations workers	9,371
Writers & artists*	9,802
Bank officers & financial managers	10,111
Buyers & purchasing agents	10,290
Sales managers & department heads	15,251
Sales representatives**	29,709
Secretaries & stenographers	81,005
Foremen	54,375
Total	304,235

Source: Indiana Employment Security Division, Indiana's Interim Manpower Projections 1970-1980.

* Includes designers, editors and reporters, photographers, and public relations men & writers.

** Includes stock and bond salesmen and sales representatives.

The projections of the I.E.S.D. indicate that the thirteen occupations listed account for a large proportion of the highly trained or educated manpower in Indiana. (These figures include individuals employed in educational institutions, health facilities, government offices, and non-profit organizations as well as those employed in business and industry.)

* * * * *

The respondents were asked whether any occupations on the list of thirteen were not represented in their company. The responses to this question are presented in Table 4.

TABLE 4: OCCUPATION REPRESENTED IN COMPANY, BY SIZE AND TYPE OF COMPANY

Question 1.*

Occupation	Represented in Company	Manufacturing										Nonmanufacturing										All Companies**	
		Size of Company										Size of Company											
		100-249		250-499		500-999		1,000+		Total		100-239		250-499		500-999		1,000+		Total			
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Engineers	Yes	42	79.2	56	90.3	46	92.0	35	97.2	179	89.1	9	32.1	2	12.5	9	56.3	6	46.2	26	35.6	205	74.8
	No	11	20.8	6	9.7	4	8.0	1	2.8	22	10.9	19	67.9	14	87.5	7	43.7	7	53.8	47	64.4	69	25.2
Scientists	Yes	5	9.4	12	19.4	12	24.0	21	58.3	50	24.9	3	10.7	2	12.5	3	18.7	0	0.0	8	11.0	58	21.2
	No	48	90.6	50	80.6	38	76.0	15	14.7	151	75.1	25	89.3	14	87.5	13	81.3	13	100.0	65	89.0	216	78.8
Technicians	Yes	39	73.6	49	79.0	44	88.0	35	97.2	167	83.1	10	35.7	5	31.3	6	37.5	7	53.8	28	38.4	195	71.2
	No	14	26.4	13	21.0	6	12.0	1	2.8	34	16.9	18	64.3	11	68.7	10	62.5	6	46.2	45	61.6	79	28.8
Computer specialists	Yes	13	24.5	33	53.2	40	80.0	32	88.9	118	58.7	17	60.7	6	37.5	13	81.3	12	92.3	48	65.8	166	60.6
	No	40	75.5	29	46.8	10	20.0	4	11.1	83	41.3	11	39.3	10	62.5	3	18.7	1	7.7	25	34.2	108	39.4
Accountants	Yes	38	71.7	54	87.1	49	98.0	36	100.0	177	88.1	20	71.4	13	81.3	15	93.7	12	92.3	60	82.2	237	86.5
	No	15	28.3	8	12.9	1	2.0	0	0.0	24	11.9	8	28.6	3	18.7	1	6.3	1	7.7	13	17.8	37	13.5
Personnel & labor rel.	Yes	39	73.6	54	87.1	48	96.0	36	100.0	177	88.1	17	60.7	13	81.3	16	100.0	12	92.3	58	79.5	235	85.8
	No	14	26.4	8	12.9	2	4.0	0	0.0	24	11.9	11	39.3	3	18.7	0	0.0	1	7.7	15	20.5	39	14.2
Writers & artists	Yes	9	17.0	18	29.5	18	36.7	18	50.0	63	31.8	8	28.6	5	31.3	11	68.7	11	84.6	35	47.9	98	36.0
	No	44	83.0	43	70.5	31	63.3	18	50.0	136	68.3	20	71.4	11	68.7	5	31.3	2	15.4	38	52.1	174	64.0
Bank officers & financial mgrs.	Yes	19	35.8	31	50.0	24	48.0	23	63.9	97	48.3	14	50.0	8	50.0	9	56.3	11	84.6	42	57.5	139	50.7
	No	34	64.2	31	50.0	26	52.0	13	36.1	104	51.7	14	50.0	8	50.0	7	43.7	2	15.4	31	42.5	135	49.3
Buyers & purch. agents	Yes	41	77.4	53	85.5	44	88.0	34	94.4	172	85.6	16	57.1	11	68.7	12	75.0	12	92.3	51	69.9	223	81.4
	No	12	22.6	9	14.5	6	12.0	2	5.6	29	14.4	12	42.9	5	31.3	4	25.0	1	7.7	22	30.1	51	18.6
Sales mgrs. & dept. heads	Yes	45	84.9	60	96.8	44	88.0	32	88.9	181	90.0	26	92.9	13	81.3	14	87.5	12	92.3	65	89.0	246	89.8
	No	8	15.1	2	3.2	6	12.4	4	11.1	20	10.0	2	7.1	3	18.7	2	12.5	1	7.7	8	11.0	28	10.2
Sales reps.	Yes	34	64.2	41	66.1	33	66.0	21	58.3	129	64.2	18	64.3	7	43.7	8	50.0	11	84.6	44	60.3	173	63.1
	No	19	35.8	21	33.9	17	34.0	15	41.7	72	35.8	10	35.7	9	56.3	8	50.0	2	15.4	29	39.7	101	36.9
Secretaries	Yes	52	98.1	61	98.4	50	100.0	36	100.0	199	99.0	27	96.4	14	87.5	16	100.0	13	100.0	70	95.9	269	98.2
	No	1	1.9	1	1.6	0	0.0	0	0.0	2	1.0	1	3.6	2	12.5	0	0.0	0	0.0	3	4.1	5	1.8
Foremen	Yes	52	98.1	61	98.4	49	98.0	36	100.0	198	98.5	14	50.0	8	50.0	11	68.7	10	76.9	43	58.9	241	88.0
	No	1	1.9	1	1.6	1	2.0	0	0.0	3	1.5	14	50.0	8	50.0	5	31.3	3	23.1	30	41.1	33	12.0

*Refers to question in interview format, Appendix B.

**The column titled "All Companies" is not intended to represent all companies in Indiana with more than 100 employees. This column is a summation of responses from those companies which were included in the study and should only be used for comparative purposes when viewing each size classification or each occupation.

Table 4 presents the degree to which the thirteen occupations were represented in the companies by type and size of company. The only occupations included in fewer than half of the companies were writers and artists (36 percent) and scientists (21 percent).

The type of company (manufacturing or nonmanufacturing) influenced the degree to which occupations were represented. Engineers, scientists, technicians, accountants, personnel and labor relations workers, buyers and purchasing agents, and foremen were all found noticeably more frequently in manufacturing firms. Computer specialists, writers and artists, and bank officers and financial managers were more frequently encountered in the nonmanufacturing sector. The proportions hiring sales managers and department heads, sales representatives, and secretaries were approximately the same (within five percent) for the two types of companies.

The size of the company was also a major indicator as to whether or not an occupation was represented in a company. As might be expected, it was generally the case that the larger the company the more probability existed that an occupation would be represented in the company. A number of interviewees in the smaller companies indicated that they did not directly employ people as accountants or computer specialists but found it more economical to contract with accounting or data systems firms to provide services in these areas.

* * * * *

The respondents were then asked if previous job-related full-time experience was required for new hires to any of the listed occupations. The responses to this question are reported in Table 5.

TABLE 5: PREVIOUS JOB-RELATED EXPERIENCE *REQUIRED* FOR NEW HIRES TO THE OCCUPATIONS, BY TYPE OF COMPANY

Question 2.

Occupation	Experience Required	Manufacturing n	Manufacturing %	Nonmanufacturing n	Nonmanufacturing %	Total n	Total %
Engineers	Yes	51	29.3	3	12.0	54	27.1
	No	123	70.7	22	88.0	145	72.9
	Total	174	100.0	25	100.0	199	100.0
Scientists	Yes	12	24.5	1	14.3	13	23.2
	No	37	75.5	6	85.7	43	76.8
	Total	49	100.0	7	100.0	56	100.0
Technicians	Yes	25	15.2	7	25.9	32	16.8
	No	139	84.8	20	74.1	159	83.2
	Total	164	100.0	27	100.0	191	100.0
Computer specialists	Yes	24	20.7	15	31.9	39	23.9
	No	92	79.3	32	68.1	124	76.1
	Total	116	100.0	47	100.0	163	100.0
Accountants	Yes	34	19.5	14	23.7	48	20.6
	No	140	80.5	45	76.3	185	79.4
	Total	174	100.0	59	100.0	233	100.0
Personnel & labor relations	Yes	42	25.5	22	38.6	64	28.8
	No	123	74.5	35	61.4	158	71.2
	Total	165	100.0	57	100.0	222	100.0
Writers & artists	Yes	13	21.0	12	34.3	25	25.8
	No	49	79.0	23	65.7	72	74.2
	Total	62	100.0	35	100.0	97	100.0
Bank officers & financial mgrs.	Yes	49	53.3	26	61.9	75	56.0
	No	43	46.7	16	38.1	59	44.0
	Total	92	100.0	42	100.0	134	100.0
Buyers & purch. agents	Yes	58	34.7	28	54.9	86	39.4
	No	109	65.3	23	45.1	132	60.6
	Total	167	100.0	51	100.0	218	100.0
Sales mgrs. & dept. heads	Yes	116	67.8	45	72.6	161	69.1
	No	55	32.2	17	27.4	72	30.9
	Total	171	100.0	62	100.0	233	100.0
Sales reps.	Yes	43	35.2	12	28.6	55	33.5
	No	79	64.8	30	71.4	109	66.5
	Total	122	100.0	42	100.0	164	100.0
Secretaries	Yes	22	11.8	9	13.8	31	12.4
	No	164	88.2	56	86.2	220	87.6
	Total	186	100.0	65	100.0	251	100.0
Foremen	Yes	101	53.2	23	60.5	124	54.4
	No	89	46.8	15	39.5	104	45.6
	Total	190	100.0	38	100.0	228	100.0
Total	Yes	590	32.2	217	39.0	807	33.8
	No	1,242	67.8	340	61.0	1,582	66.2
	Total	1,832	100.0	557	100.0	2,389	100.0

Previous job-related experience was required by more than half of the employers for three occupations: sales managers/department heads (69.1 percent), bank officers/financial managers (56 percent), and foremen (54 percent). These, then, are not considered entry-level positions at most companies. The occupations for which the lowest proportions of respondents required related experience were secretaries (12 percent) and technicians (17 percent). For the remainder of the occupations, the proportion of employers requiring full-time experience ranged from twenty to forty percent.

* * * * *

The respondents were then asked the educational levels and areas of study they preferred for new hires to each of the listed occupations. They were asked to use the following guide in answering questions concerning educational levels and areas of study.

Degree Levels

1. High school diploma or less
2. Some college, no degree
3. Associate (two year) degree
4. Bachelor's degree
5. Master's degree
6. Doctorate or professional degree

Areas of Study

Associate Level
1. Business and commerce technologies
2. Data processing technologies
3. Mechanical and engineering technologies

Bachelor's and Higher
1. Business/accounting/management
2. Science (biological & physical)
3. Engineering/technology
4. Liberal arts/social sciences
5. Mathematics/computer science
6. Education

Table 6 presents the educational levels preferred for new hires in each of the thirteen occupations. Only those companies in which an occupation was represented were asked for responses to this question.

TABLE 6: EDUCATIONAL LEVELS PREFERRED FOR NEW HIRES TO THIRTEEN OCCUPATIONS

Question 3.

Occupations		Number of companies asked	High school dipl. or less	Some coll., no degree	Associate degree	Bachelor's degree	Master's degree	Doctorate or prof. degree	No preference	No opinion/ no response
Engineers	n	205	0	3	18	189	14	3	0	2
	%	100	0.0	1.5	8.8	92.2	6.8	1.5	0.0	1.0
Scientists	n	58	0	0	3	47	22	15	0	0
	%	100	0.0	0.0	5.2	81.0	37.9	25.9	0.0	0.0
Technicians	n	195	25	29	114	51	2	1	7	0
	%	100	12.8	14.9	58.5	26.2	1.0	0.5	3.6	0.0
Computer specialists	n	166	16	21	61	98	6	2	1	2
	%	100	9.6	12.7	36.7	59.0	3.6	1.2	0.6	1.2
Accountants	n	237	6	11	50	192	14	3	0	2
	%	100	2.5	4.6	21.1	81.0	5.9	1.3	0.0	0.8
Personnel & labor rels.	n	235	5	24	12	183	22	4	9	6
	%	100	2.1	10.2	5.1	77.9	9.4	1.7	3.8	2.6
Writers & artists	n	98	9	14	19	58	6	2	6	1
	%	100	9.2	14.3	19.4	59.2	6.1	2.0	6.1	1.0
Bank officers &	n	139	0	3	7	100	40	4	2	5
	%	100	0.0	2.2	5.0	71.9	28.8	2.9	1.4	3.6
Buyers & purch.agents	n	223	42	31	33	123	7	1	11	3
	%	100	18.8	13.9	14.8	55.2	3.1	0.4	4.9	1.3
Sales mgrs. & dept. heads	n	246	19	32	16	184	16	3	13	3
	%	100	7.7	13.0	6.5	74.8	6.5	1.2	5.3	1.2
Sales reps.	n	173	21	30	22	96	3	0	16	4
	%	100	12.1	17.3	12.7	55.5	1.7	0.0	9.2	2.3
Secretaries	n	269	147	59	78	11	0	0	11	3
	%	100	54.6	21.9	29.0	4.1	0.0	0.0	4.1	1.1
Foremen	n	241	100	42	32	58	1	0	28	6
	%	100	41.5	17.4	13.3	24.1	0.4	0.0	11.6	2.5

Row totals are more than 100 percent due to multiple responses.

Majorities of the respondents indicated for ten of thirteen occupations that the preferred educational level for new hires was the bachelor's degree. For two exceptions, secretaries and foremen, the largest proportions indicated that the high school diploma or less was the preferred educational level. Sizable minorities, however, expressed preference for associate or bachelor's degrees to these two occupations. For technicians, a majority preferred the associate degree.

The only occupation to which more than ten percent of the respondents indicated a preference for the doctorate or professional degree was scientists (26 percent). The master's degree was the preferred level for scientists of 38 percent of the respondents and for bank officers and financial managers of 29 percent and less than ten percent for all other occupations.

The associate degree was the preferred educational level of more than one-third of the respondents for computer specialists, as well as the majority already noted as preferring this level for technicians.

Though the bachelor's degree was the generally preferred educational level for most of the listed occupations, it is apparent that there remains a wide variability in employers' preferences concerning educational levels for new hires to the listed occupations.

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Table 7 represents the areas of study preferred for new hires to the thirteen occupations. Those respondents who indicated educational preference at the secondary level were not asked this question.

TABLE 7: EDUCATIONAL AREAS OF STUDY PREFERRED FOR NEW HIRES TO THIRTEEN OCCUPATIONS

Question 3.

Occupation		Number of companies asked	Associate Degree Level: Bus. & comm. techs.	Associate Degree Level: Data proc. techs.	Associate Degree Level: Mech. & engr. techs.	Bachelor's and Higher Degree Level: Bus./acctg./mgmt.	Bachelor's and Higher Degree Level: Sciences	Bachelor's and Higher Degree Level: Engr./tech.	Bachelor's and Higher Degree Level: Lib. arts/soc. sci.	Bachelor's and Higher Degree Level: Math/comp. science	Bachelor's and Higher Degree Level: Education	No opinion/no response
Engineers	n	205	0	0	15	1	3	191	0	1	0	3
	%	100	0.0	0.0	7.3	0.5	1.5	93.2	0.0	0.5	0.0	1.5
Scientists	n	58	0	0	2	2	52	5	0	2	0	0
	%	100	0.0	0.0	3.4	3.4	98.7	8.6	0.0	3.4	0.0	0.0
Technicians	n	170	3	4	110	4	28	39	2	4	2	3
	%	100	1.8	2.4	64.7	2.4	16.5	22.9	1.2	2.4	1.2	1.8
Computer specialists	n	150	2	56	5	19	2	2	2	101	0	1
	%	100	1.3	37.3	3.3	12.7	1.3	1.3	1.3	67.3	0.0	0.7
Accountants	n	231	44	2	0	204	0	2	1	3	0	2
	%	100	19.0	0.9	0.0	88.3	0.0	0.9	0.4	1.3	0.0	0.9
Personnel & labor relations	n	230	13	2	1	174	6	9	76	3	5	23
	%	100	5.7	0.9	0.4	75.7	2.6	3.9	33.0	1.3	2.2	10.0
Writers & artists	n	89	8	0	7	15	1	6	63	1	2	6
	%	100	9.0	0.0	7.9	16.9	1.1	6.7	70.8	1.1	2.2	6.7
Bank officers & fin. mgrs.	n	139	5	0	0	126	0	1	2	5	0	8
	%	100	3.6	0.0	0.0	90.6	0.0	0.7	1.4	3.6	0.0	5.8
Buyers & purch. agents	n	181	31	2	7	127	6	23	12	4	1	19
	%	100	17.1	1.1	3.9	70.2	3.3	12.7	6.6	2.2	0.6	10.5
Sales mgrs. & depart. heads	n	227	14	4	7	155	16	71	27	17	3	27
	%	100	6.2	1.8	3.1	68.3	7.0	31.3	11.9	7.5	1.3	11.9
Sales reps.	n	152	20	2	7	82	9	41	23	5	5	25
	%	100	13.2	1.3	4.6	53.9	5.9	27.0	15.1	3.3	3.3	16.4
Secretaries	n	122	114	1	1	18	1	1	4	3	3	0
	%	100	93.4	0.8	0.8	14.8	0.8	0.8	3.3	2.5	2.5	0.0
Foremen	n	141	11	1	30	59	3	41	13	3	3	31
	%	100	7.8	0.7	21.3	41.8	2.1	29.1	9.2	2.1	2.1	22.0

Row totals are more than 100 percent due to multiple responses.

For all occupations except foremen a majority of the respondents chose one educational area closely related to the type of occupation. For foremen, a plurality chose the business/accounting/management background with sizable minorities expressing preferences for majors in engineering/technology and mechanical and engineering technologies.

The respondents showed varying preferences of field of study for a number of other occupations. This was particularly true of the two sales-related occupations where significant minorities expressed preferences for majors in engineering/technology or the liberal arts/social sciences. One third of the respondents also indicated a preference for liberal arts/social science majors working as personnel and labor relations workers.

* * * * *

The respondents were asked whether or not they foresaw, over the next few years, changes in their educational preferences, either by degree level or area of study, for any of the listed occupations. Table 8 presents the responses concerning changes foreseen in preferences of educational levels.

TABLE 8: ANTICIPATED CHANGES IN EDUCATIONAL LEVELS PREFERRED

Question 4.

Occupation	Raise preferred level		No change		Lower preferred level	
	n	%	n	%	n	%
Engineers	22	10.7	181	88.3	2	1.0
Scientists	2	3.4	54	93.1	2	3.4
Technicians	27	13.8	166	85.1	2	1.0
Computer specialists	16	9.6	147	88.6	3	1.8
Accountants	15	6.3	220	92.8	2	0.8
Personnel & labor relations	25	10.6	207	88.1	3	1.3
Writers & artists	2	2.0	94	95.9	2	2.0
Bank officers & financial mgrs.	9	6.5	125	89.9	5	3.6
Buyers & purch. agents	12	5.4	205	91.9	6	2.7
Sales mgrs. & depart. heads	22	8.9	219	89.0	5	2.0
Sales reps.	17	9.8	150	86.7	6	3.5
Secretaries	14	5.2	249	92.6	6	2.2
Foremen	28	11.6	209	86.7	4	1.7

Table 8 represents the degree to which the respondents expected that their hiring preferences concerning educational levels for new hires would increase or decrease over the next few years. The data indicated that, for some occupations, many employers will expect to set their educational levels of preference at a higher level than is currently the case. These changes might be a result of the increasing availability of college graduates seeking

jobs which could, in many cases, result in large-scale underemployment of college-educated people. It could also be based upon technological and administrative changes which call for better-educated personnel to function effectively. Each of these reasons was presented by a number of employers who indicated that the educational levels of their new hires would be rising.

The specific occupation for which the highest proportion of employers anticipated increasing educational level preferences was that of technicians. Fourteen percent of those employing technicians indicated that their preferences in this regard would rise in the next few years. Educational levels for foremen, engineers, personnel and labor relations workers, sales representatives, and computer specialists were also seen to be rising by about ten percent of the companies who employ people in these occupations. The lowest percentages expecting increases were found for writers and artists, scientists, secretaries, and buyers and purchasing agents.

Preferences for educational levels were not seen to be decreasing by as many as five percent of the employers for any occupation. The occupations for which the highest proportions of respondents anticipated lowering preferred educational levels were bank officers and financial managers and scientists.

The respondents also indicated occupations for which they expected their preferences concerning the major field of study of a new hire would be changing. Such changes were not anticipated in great number and, where foreseen, they were generally moves toward preferences for graduates of business or technical programs.

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The respondents were asked if they anticipated that, over the next few years, their firm would significantly increase or decrease the overall number of people employed in any of the thirteen occupations. It was specified that these changes could result from changes in the occupational structure of the company and/or overall growth or decline in the company's number of employees. The responses to this question are presented in Table 9.

TABLE 9: CHANGES IN NUMBERS EMPLOYED, BY TYPE OF COMPANY

Question 5.

Occupations	Change	Manufacturing n	Manufacturing %	Nonmanufacturing n	Nonmanufacturing %	Total n	Total %
Engineers	Increase	54	30.9	7	26.9	61	30.3
	NoChange	116	66.3	18	69.2	134	66.7
	Decrease	5	2.9	1	3.8	6	3.0
	Total	175	100.0	26	100.0	201	100.0
Scientists	Increase	14	28.0	1	12.5	15	25.9
	NoChange	34	68.0	7	87.5	41	70.7
	Decrease	2	4.0	0	0.0	2	3.4
	Total	50	100.0	8	100.0	58	100.0
Technicians	Increase	37	22.6	6	21.4	43	22.4
	NoChange	122	74.4	21	75.0	143	74.5
	Decrease	5	3.0	1	3.6	6	3.1
	Total	164	100.0	28	100.0	192	100.0
Computer specialists	Increase	24	20.7	17	36.2	41	25.2
	NoChange	88	75.9	28	59.6	116	71.2
	Decrease	4	3.4	2	4.3	6	3.7
	Total	116	100.0	47	100.0	163	100.0
Accountants	Increase	30	17.3	20	34.5	50	21.6
	NoChange	139	80.3	36	62.1	175	75.8
	Decrease	4	2.3	2	3.4	6	2.6
	Total	173	100.0	58	100.0	231	100.0
Personnel & labor relations	Increase	27	15.5	14	25.5	41	17.9
	NoChange	143	82.2	39	70.9	182	79.5
	Decrease	4	2.3	2	3.6	6	2.6
	Total	174	100.0	55	100.0	229	100.0
Writers & artists	Increase	10	16.1	9	25.7	19	19.6
	NoChange	50	80.6	25	71.4	75	77.3
	Decrease	2	3.2	1	2.9	3	3.1
	Total	62	100.0	35	100.0	97	100.0
Bank officers & financial mgrs.	Increase	17	17.9	12	28.6	29	21.2
	NoChange	75	78.9	29	69.0	104	75.9
	Decrease	3	3.2	1	2.4	4	2.9
	Total	95	100.0	42	100.0	137	100.0
Buyers & purch. agents.	Increase	28	16.7	12	24.0	40	18.3
	NoChange	136	81.0	36	72.0	172	78.9
	Decrease	4	2.4	2	4.0	6	2.8
	Total	168	100.0	50	100.0	218	100.0
Sales mgrs. & dept. heads	Increase	36	20.1	15	23.4	51	21.0
	NoChange	139	77.7	44	68.8	183	75.3
	Decrease	4	2.2	5	7.8	9	3.7
	Total	179	100.0	64	100.0	243	100.0
Sales reps.	Increase	29	23.0	16	37.2	45	26.6
	NoChange	96	76.2	27	62.8	123	72.8
	Decrease	1	0.8	0	0.0	1	0.6
	Total	126	100.0	43	100.0	169	100.0
Secretaries	Increase	39	20.2	18	26.5	57	21.8
	NoChange	149	77.2	47	69.1	196	75.1
	Decrease	5	2.6	3	4.4	8	3.1
	Total	193	100.0	68	100.0	261	100.0
Foremen	Increase	51	25.9	11	26.2	62	25.9
	NoChange	142	72.1	28	66.7	170	71.1
	Decrease	4	2.0	3	7.1	7	2.9
	Total	197	100.0	42	100.0	239	100.0

The respondents were asked whether they anticipated an overall increase or decrease in the number of people hired in their company to each occupation over the next few years, or whether they expected the number to remain approximately the same. This question was only asked for occupations represented in a respondent's company.

Very low proportions of the respondents anticipated decreasing numbers employed over the next few years for each of the listed occupations. No more than nine companies expected the number employed to any occupation to decrease over the next few years. Many, however, noted that this is contingent upon the state of the economy. If business did not improve, decreases in numbers employed might become necessary.

The occupations which received the highest percentages of respondents anticipating increases in numbers employed were engineers, sales representatives, foremen, and scientists, while the lowest percentages of increase were found for personnel and labor relations workers, and buyers/purchasing agents.

A higher percentage of respondents from manufacturing than from non-manufacturing companies anticipated employing increased number of scientists. Approximately equal percentages (within five percent) anticipated increasing numbers of engineers, technicians, sales managers/department heads and foremen. For the other eight occupations, higher percentages of manufacturing company respondents expected to increase the number of people employed.

* * * * *

The respondents were asked whether they were able to locate and hire educationally qualified people to fill all of their positions for the listed occupations. This question was subject to a degree of interpretation since the availability of "educationally qualified" people could refer to the number of graduates located or to the employer's estimate of how well the educational system produces qualified individuals. The ability to hire could also be affected by the location, pay scale, or other company variables not directly related to the number of college graduates seeking employment. The responses to this question are presented in Table 10.

TABLE 10: ABILITY TO LOCATE AND HIRE EDUCATIONALLY QUALIFIED PEOPLE, BY TYPE OF COMPANY

Question 6.

Occupation	Able to Locate & Hire	Manufacturing n	Manufacturing %	Nonmanufacturing n	Nonmanufacturing %	Total n	Total %
Engineers	Yes	137	76.5	23	88.5	160	78.0
	No	42	23.5	3	11.5	45	22.0
Scientists	Yes	41	85.4	8	100.0	49	87.5
	No	7	14.6	0	0.0	7	12.5
Technicians	Yes	145	86.8	27	96.4	172	88.2
	No	22	13.2	1	3.6	23	11.8
Computer specialists	Yes	103	88.0	44	93.6	147	89.6
	No	14	12.0	3	6.4	17	10.4
Accountants	Yes	160	90.9	57	96.6	217	92.3
	No	16	9.1	2	3.4	18	7.7
Personnel & labor relations	Yes	160	90.9	52	94.5	212	91.8
	No	16	9.1	3	5.5	19	8.2
Writers & artists	Yes	57	90.5	34	97.1	91	92.9
	No	6	9.5	1	2.9	7	7.1
Bank officers & financial mgrs.	Yes	87	90.6	39	95.1	126	92.0
	No	9	9.4	2	4.9	11	8.0
Buyers & purch. agents.	Yes	159	92.4	49	98.0	208	93.7
	No	13	7.6	1	2.0	14	6.3
Sales mgrs. & dept. heads	Yes	165	92.2	58	92.1	223	92.1
	No	14	7.8	5	7.9	19	7.9
Sales reps.	Yes	114	89.8	41	95.3	155	91.2
	No	13	10.2	2	4.7	15	8.8
Secretaries	Yes	177	90.8	63	92.6	240	91.3
	No	18	9.2	5	7.4	23	8.7
Foremen	Yes	168	85.3	40	95.2	208	87.0
	No	29	14.7	2	4.8	31	13.0

Table 10 represents the respondents' ability to locate and hire educationally qualified people to each of the listed occupations. For all occupations save that of engineer, 87 percent or more of the respondents did not have difficulty locating and hiring personnel. For most occupations fewer than ten percent reported such difficulty. Taking into account the fact that some companies might have problems in locating and hiring college graduates because of isolated locations, low pay scales, or unattractive working conditions, it would appear that, in general, Indiana's businesses and industries have not had a difficult time in employing qualified college graduates as new hires. The occupation of engineer was the only one for which a sizable number of respondents (22 percent) reported problems in this regard.

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COLLEGE GRADUATES AS PERCENTAGE OF TOTAL EMPLOYEES

The respondents were asked to estimate the percentage of their current employees who had received bachelor's or higher college degrees. Their responses are presented in Table 11.

TABLE 11: ESTIMATED PERCENTAGE OF EMPLOYEES WHO ARE COLLEGE GRADUATES, BY TYPE OF COMPANY

Question 8.

Percent	Manufacturing n	Manufacturing %	Nonmanufacturing n	Nonmanufacturing %	Total n	Total %
0-5	97	48.5	21	28.8	118	43.2
6-10	55	27.5	14	19.2	69	25.3
11-20	31	15.5	24	32.9	55	20.1
21-40	13	6.5	11	15.1	24	8.8
More than 40	4	2.0	3	4.1	7	2.6

χ^2=19.69316 df=4 p=.0006*

More than forty percent of the respondents indicated that the percentage of college graduates in their company was four percent or lower. Nonmanufacturing firms appeared to employ significantly lower percentages of college graduates than manufacturing firms.

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The interviewees were then asked to estimate whether they thought the percentage of college graduates in their companies would increase, stay the same, or decrease over the next few years. The responses to this question are contained in Table 12.

TABLE 12: ANTICIPATED CHANGE IN PERCENTAGE OF EMPLOYEES WHO ARE COLLEGE GRADUATES, BY TYPE OF COMPANY

Question 9.

Change in Percentage	Manufacturing n	Manufacturing %	Nonmanufacturing n	Nonmanufacturing %	Total n	Total %
Increase	114	57.6	43	58.9	157	57.9
No change	81	40.9	27	37.0	108	39.9
Decrease	3	1.5	3	4.1	6	2.2

χ^2=1.84371 df=2 p=.3978*

*Where appropriate, chi square values, degrees of freedom, and probability levels have been reported as a measure of the significance of differences between groups of respondents.

Well over half of the respondents estimated that the percentage of their total employees who had received bachelor's degrees or higher would increase over the next few years. In general they expressed the view that this increase would come about because of the growth in numbers of college graduates who were seeking employment with them. Some respondents indicated that the increase would result from the anticipated expansion in numbers hired to certain occupations for which a college degree is required.

Forty percent of the respondents indicated that there would probably be no change in the proportion of their total employees with college degrees, and two percent believed this percentage would decrease in the next few years. The differences in responses between the representatives of manufacturing and nonmanufacturing companies were not significant regarding these estimates.

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INFLUENCES OF MAJOR AREAS OF STUDY AND TYPES OF EXPERIENCE UPON GENERAL EMPLOYABILITY

The interviewees were asked how each of nine major areas of study would influence a person's general employability with their company. The responses to this question are presented in Table 13.

TABLE 13: INFLUENCE OF MAJOR AREAS OF STUDY UPON GENERAL EMPLOYABILITY, BY TYPE OF COMPANY

Question 20.

Major Area of Study	Manufacturing					Nonmanufacturing					Total				
	Strong Pos. Infl. %	Mild Pos. Infl. %	Minor or no Infl. %	Mild Neg. Infl. %	Strong Neg. Infl. %	Strong Pos. Infl. %	Mild Pos. Infl. %	Minor or no Infl. %	Mild Neg. Infl. %	Strong Neg. Infl. %	Strong Pos. Infl. %	Mild Pos. Infl. %	Minor or no Infl. %	Mild Neg. Infl. %	Strong Neg. Infl. %
Associate Degrees															
Business & commerce technologies	26.9	56.3	14.7	2.0	0.0	24.7	56.2	16.4	2.7	0.0	26.3	56.3	15.2	2.2	0.0
Data processing technologies	22.8	44.7	26.9	3.6	2.0	33.3	38.9	20.8	4.2	2.8	25.7	43.1	25.3	3.7	2.2
Mech. and engr. technologies	56.6	30.8	10.1	1.0	1.5	20.5	23.3	42.5	6.8	6.8	46.9	28.8	18.8	2.6	3.0
Bachelor's & Higher Deg.															
Business, accounting or management	76.5	19.4	3.6	0.5	0.0	76.7	17.8	4.1	0.0	1.4	76.6	19.0	3.7	0.4	0.4
Sciences	18.7	20.4	42.4	10.1	8.6	13.7	16.4	56.2	6.8	6.8	17.3	19.2	46.1	9.2	8.1
Engineering or technology	77.7	12.2	8.6	1.0	0.5	32.9	19.2	37.0	6.8	4.1	65.6	14.1	16.3	2.6	1.5
Liberal arts or social sciences	11.7	40.6	36.5	8.1	3.0	12.3	50.7	27.4	5.5	4.1	11.9	43.3	34.1	7.4	3.3
Mathematics or computer science	34.8	39.4	22.7	2.5	0.5	53.4	28.8	12.3	4.1	1.4	39.9	36.5	19.9	3.0	0.7
Education	4.0	27.8	49.0	12.1	7.1	4.1	43.8	37.0	8.2	6.8	4.1	32.1	45.8	11.1	7.0

Two major areas of study at the baccalaureate or higher level (business/accounting/management and engineering/technology) were indicated as having a strong positive influence on more than 65 percent of the respondents. No other major area had a strong positive influence upon as many as fifty percent of the interviewees. The business/accounting/management degree was noted as having a strong positive influence upon 77 percent of both manufacturing and non-manufacturing company respondents, while for the engineering/technology major the manufacturing companies were much more positively influenced than the nonmanufacturing (78 percent to 33 percent respectively).

Bachelor's or higher degrees in mathematics or computer science had a strong positive or mild positive influence upon 76 percent of the respondents. These degrees had a more positive influence upon nonmanufacturing than manufacturing companies.

All three associate degree areas of study had a strong or mild positive influence upon more than two-thirds of the respondents (business and commerce technologies = 83 percent, mechanical and engineering technologies = 76 percent, data processing technologies = 69 percent). Recipients of associate degrees in the mechanical and engineering technologies were primarily attractive to respondents from manufacturing companies.

Of the three remaining degree fields, the liberal arts/social sciences had a mild or strong positive influence upon 55 percent of the respondents, while for the sciences this figure was 37 percent and for education 36 percent. These three were the only fields for which more than ten percent of the interviewees stated that such a degree would have a mild or strong negative influence upon a person's general employability.

* * * * *

The respondents were asked how each of nine different types of experience would influence a person's general employability with their company. The responses to this question are presented in Table 14.

TABLE 14: INFLUENCE OF TYPES OF EXPERIENCE UPON GENERAL EMPLOYABILITY, BY TYPE OF COMPANY

Question 21.

	Manufacturing					Nonmanufacturing					Total				
Experience	Strong Pos. Infl. %	Mild Pos. Infl. %	Minor or no Infl. %	Mild Neg. Infl. %	Strong Neg. Infl. %	Strong Pos Infl. %	Mild Pos. Infl. %	Minor or no Infl. %	Mild Neg. Infl. %	Strong Neg. Infl. %	Strong Pos. Infl. %	Mild Pos. Infl. %	Minor or no Infl. %	Mild Neg. Infl. %	Strong Neg. Infl. %
Full-time job at coll. not related to empl.	30.3	51.2	17.4	0.0	1.0	27.4	53.4	17.8	1.4	0.0	29.6	51.8	17.5	0.4	0.7
Summer job related to prospective employment	60.2	39.3	0.5	0.0	0.0	49.3	47.9	2.7	0.0	0.0	57.3	41.6	1.1	0.0	0.0
Officer in the military	17.5	41.0	37.5	2.0	2.0	16.4	45.2	32.9	4.1	1.4	17.2	42.1	36.3	2.6	1.8
Enlisted person in the military	8.5	34.3	53.7	2.5	1.0	1.4	41.1	56.2	0.0	1.4	6.6	36.1	54.4	1.8	1.1
Year of full-time work between yrs. of coll. not related to empl.	10.1	43.7	44.7	1.5	0.0	5.5	50.7	42.5	1.4	0.0	8.8	45.6	44.1	1.5	0.0
Part-time job at coll. not related to empl.	11.4	47.8	39.8	1.0	0.0	5.5	52.1	41.1	1.4	0.0	9.9	48.9	40.1	1.1	0.0
A year of travel	2.5	15.9	63.7	15.4	2.5	1.4	11.0	75.3	6.8	5.5	2.2	14.6	66.8	13.1	3.3
Peace Corps or Vista experience	5.5	38.0	45.5	10.5	0.5	6.8	34.2	50.7	6.8	1.4	5.9	37.0	46.9	9.5	0.7
Volunteer job related to prospective empl.	39.1	49.7	10.2	0.0	1.0	30.4	60.9	5.8	1.4	1.4	36.8	52.6	9.0	0.4	1.1

The only type of experience which had a strong positive influence upon more than half of the respondents was a summer job related to the prospective employment. This was, by far, the most highly regarded form of experience among those listed.

More than one-third of the respondents regarded a volunteer job related to the prospective employment as a highly positive influence, and an additional 53 percent viewed it as a mild positive influence, making this the second-most highly valued of the experiences listed. It would appear that the fact that both of these types of experience were related to the prospective employment was the major factor in determining their high ratings. A number of interviewees commented that if a person had worked in a related area he had a better perspective of the occupation and a better idea of whether or not he wanted to continue in it.

Some other types of work experience had a mild or strong positive influence upon more than half of the respondents. These were a full-time job during college not related to prospective employment, a part-time job during college not related to prospective employment, and a year or more of full-time work experience between years of college not related to prospective employment.

Experience as an officer in the military had a strong or mild positive influence upon 59 percent of the respondents. Some commented that such a person would be better able to assume a position of leadership in the company. This was borne out by the fact that enlisted status in the military had a positive influence upon only 43 percent of the respondents.

Peace Corps or Vista experience was also viewed positively by 43 percent of the interviewees. The experience which elicited the lowest percentage of strong or mild positive reactions was that of a year of travel (17 percent). These latter two types of experience were also the only ones among those listed to which ten percent or more of the respondents expressed mild or strong negative reactions.

* * * * *

EMPLOYABILITY OF LIBERAL ARTS, SOCIAL SCIENCE, AND EDUCATION MAJORS

It might be something of a truism to state that students who have majored in fields such as the liberal arts, social sciences, and education are at a disadvantage in seeking employment with business and industry because their education rarely is directly related to the type of work they will be performing. However, it is possible that by adding a number of potentially job-related courses, these students can become more employable. The respondents were asked whether a liberal arts, social science, or education graduate would have more change of obtaining a job with their company if he had taken some college courses of a business or technical nature.

TABLE 15: EMPLOYABILITY OF LIBERAL ARTS, SOCIAL SCIENCE, OR EDUCATION MAJORS WITH COURSES OF BUSINESS OR TECHNICAL NATURE, BY TYPE OF COMPANY

Question 10.

Chance for Employment	Manufacturing n	Manufacturing %	Nonmanufacturing n	Nonmanufacturing %	Total n	Total %
Improved	167	86.1	49	68.1	216	81.2
Not improved	27	13.9	23	31.9	50	18.8

χ^2=10.0300 df=1 p=.0020

Eighty-one percent of the respondents replied that a graduate with a degree in the liberal arts, social sciences, or education fields would have more chance of obtaining a job with their company if he had some college courses of a business or technical nature. A number added that, though the person's employability would be improved, it was still improbable that he would be offered a position. It appears from the data that business or technical coursework is more effective in contributing to the employability of people with generalist degrees in manufacturing than in nonmanufacturing companies.

Those who answered affirmatively were then asked the types of skills which would be most helpful in obtaining employment for individuals with such a degree. Only those skills named by three or more respondents are reported below. A number of respondents identified general skills which might help these graduates increase their employability.

General Skills	Frequency Mentioned
Basic or General Business	42
General technical or mechanical	32
Communication (written, verbal)	17
Human relations	11
Public speaking	6

Many respondents felt that by acquiring very general skills or knowledge of business matters or technical or mechanical subjects, graduates of liberal arts, social science, and education programs could become more employable with their companies. A number of others indicated that graduates in these fields might be more employable if they had developed general skills in the art of communication or in human relations, which some defined as the ability to get along with others in working situations. Six respondents felt that public speaking would be a valuable skill for a graduate from a generalist area.

Most respondents did not indicate specific skills which could make the liberal arts, social science, or education graduate more employable, but named academic coursework which might be of value to them in seeking employment.

Academic Area - Related Skills	Frequency Mentioned
Business/Accounting/Management - Related	
Accounting	94
Business admin. or management	38
Marketing or sales	30
Personnel and labor relations	21
Industrial psych. and supervision	20
Finance	17
Purchasing	5
Business and labor law	5
Engineering/Technology - Related	
Engineering (or engr. technology)	31
Production control systems	4
Electronics	3
Metallurgy	3
Other Academic Area - Related	
Math and/or statistics	26
Economics	24
Psychology	17
Computer science	16
Sciences (general)	7
Chemistry	7
Physical sciences	4
Physics	3

It appears that most of the respondents felt that a graduate with a liberal arts, social science, or education degree could best enhance his employability through college coursework by gaining at least some proficiency in business-related areas. Nearly half of those who responded to this question thought that accounting would be a valuable skill to acquire. Many also indicated that knowledge of business administration and management, marketing or sales, personnel and labor relations, and finance would also make such applicants more employable.

Thirty-one respondents indicated that some coursework in engineering or engineering technology might make such graduates more employable. A number also expressed the view that they might be aided in seeking employment with knowledge of production control, electronics, or metallurgy.

In general academic areas, many potential employers felt that liberal arts, social science, or education majors would be more employable with coursework in mathematics or statistics. Economics was viewed by many as providing an understanding of the business world, while numerous others felt that academic work in psychology would aid the graduate in developing human relations skills. Knowledge of computer science was also seen as a valuable addition to the employability of these graduates, and a number indicated that academic work in science would be of value to them.

Other Technical or Office Skills	Frequency Mentioned
Typing	5
Office machine operation	3
Computer technology	3
Office management	3
Machinist	3

A number of specific technical or office skills were mentioned by the respondents as contributing to the employability of liberal arts, social science, and education graduates. In most cases these skills would probably aid in obtaining positions of underemployment for the graduates.

UNDEREMPLOYMENT

Current projections of the Bureau of Labor Statistics[1] indicate that we have entered, or will soon enter, a situation in which there will be more college graduates than positions available which are generally considered appropriate for a college-educated person. The BLS claims that graduates will not be unemployed in great numbers, but that many will face situations of underemployment. The contention that underemployment has already become a major problem for recent college graduates has been supported in several recent articles.[2]

Employers' views toward underemployment are not yet widely known. The interview respondents were asked whether they thought a person should start out in a job where he or she was underemployed in order to demonstrate promotability. The term "underemployed" was defined as "working at levels below education and/or experience would indicate." Table 16 presents the responses to this question.

TABLE 16: ADVISABILITY OF PERSON STARTING AT AN UNDEREMPLOYED POSITION, BY SIZE OF COMPANY

Question 11.

	Size of Company									
	100-249		250-499		500-999		1000 +		Total	
Advice	n	%	n	%	n	%	n	%	n	%
Should accept underemployment	34	44.2	27	35.1	10	16.7	15	33.3	86	33.2
Should not accept underemployment	43	55.8	50	64.9	50	83.3	30	66.7	173	66.8

χ^2=11.683 df=3 p=.0090

Two-thirds of the respondents did not feel that it was a good idea to accept a position of underemployment. They indicated with overwhelming frequency that such a situation led to the individual's becoming bored, frustrated, discontented, remaining unchallenged, or losing interest. Some indicated hesitancy to see a person underutilized while others commented that underemployment could be demeaning or degrading to the individual.

1. U.S. Department of Labor, Bureau of Labor Statistics, Occupational Manpower and Training Needs, Bulletin 1824, Washington, D.C., U.S. Government Printing Office, 1974.
2. O'Toole, James, "The Reserve Army of the Underemployed," Change, (1-May, 1975:pp.26-33, 63) (2-June, 1975:pp.26-33, 60-63). Freeman, Richard, "Overinvestment in College Training," Journal of Human Resources, (Summer, 1975, pp.287-311).

One third of the respondents thought that an individual should accept a position of underemployment in order to demonstrate promotability. This view was most commonly held in the smallest size range of company, where an individual, by working hard, might have the most opportunity to attract the atention of those who could influence promotion.

Many of those who recommended that an individual accept a position of underemployment noted that it would provide them with background and experience, and that it would give them the opportunity to learn about the company and its operations. Some indicated that, regardless of the position, good workers were noticed. Others commented that in times of a tight job market, it was of value just to get one's foot in the door.

* * * * *

The respondents were asked their estimates concerning the percentage of annual new employees who were in a situation of underemployment in their company.

TABLE 17: PERCENT OF ANNUAL NEW EMPLOYEES WHO ARE UNDEREMPLOYED, BY TYPE OF COMPANY

Question 12.

Percent Underemployed	Manufacturing		Nonmanufacturing		Total	
	n	%	n	%	n	%
0-10 Percent	149	81.4	53	75.7	202	79.8
11-25 Percent	19	10.4	7	10.0	26	10.3
26-50 Percent	6	3.3	6	8.6	12	4.7
51-75 Percent	5	2.7	1	1.4	6	2.4
76-100 Percent	4	2.2	3	4.3	7	2.8

χ^2=4.37394 df=4 p=.3578

Eighty percent of the respondents estimated that ten percent or fewer of their company's annual new hires were in underemployed situations and an additional ten percent estimated underemployment to range from eleven to 25 percent of new hires. Few companies placed this estimate at higher than 25 percent. A number of respondents expressed hesitancy toward answering this question or said that they simply had no idea as to the number of underemployed personnel with their company.

* * * * *

The respondents were asked which of four educational backgrounds (high school diploma, some college/no degree, associate degree, bachelor's degree) would be *most desirable* for a position which *required* no more than a high school diploma, assuming that all would work for the same salary. Table 18 represents the responses to this question.

TABLE 18: DESIRED EDUCATIONAL BACKGROUND FOR A POSITION REQUIRING ONLY A HIGH DIPLOMA, BY SIZE OF COMPANY

Question 13.

Educational Background	Size of Company 100-249		250-499		500-999		1,000 +		Total	
	n	%	n	%	n	%	n	%	n	%
H.S. diploma	32	42.7	32	45.1	34	54.0	21	45.7	119	46.7
Some coll./no degree	19	25.3	23	32.4	17	27.0	13	28.3	72	28.2
Associate degree	13	17.3	8	11.3	7	11.1	5	10.9	33	12.9
Bachelor's degree	11	14.7	8	11.3	5	7.9	7	15.2	31	12.2

χ^2=5.01890 df=9 p=.8327

Nearly half of the respondents indicated that they would prefer the person with no more than a high school diploma for a job requiring the diploma. Many of these indicated that such a person would be the most satisfied in that type of position. They felt that the high school graduate would be challenged, and because he would be happier in the position the company would experience less turnover. A number of respondents qualified this answer by indicating that the high school diploma would be most preferable only if there was little opportunity for promotion attached to the job.

Twenty-eight percent of the respondents indicated that the most desirable educational level for a position requiring a high school diploma would be some college but no degree completed. Many felt that the person who had this background would be better educated than the high school graduate, but not underemployed. It was also stated by a number of respondents that such a person, in beginning a college education, had shown ambition or motivation, which might indicate that they would be a good employee.

Thirteen percent of the respondents considered the associate degree to be the best background for a position requiring a high school diploma. The primary reason for choosing this background was the belief that this person would be more promotable than the high school graduate, without being over-educated for the position.

Promotability also was the major concern of the twelve percent of the respondents who indicated that they would prefer a bachelor's degree recipient for a position requiring a high school diploma. Some felt that completion of the bachelor's degree indicated learning capabilities which could make a person more productive than those with lesser levels of education.

It was hypothesized that the size of the company might strongly influence responses to this question. This was not found to be the case as the size categories did not differ significantly from one another in their responses.

* * * * *

The respondents were then asked whether they would *prefer* to hire a master's degree recipient or a bachelor's degree recipient (or whether the degree would make no difference) for a job opening *requiring* a bachelor's degree. Their responses are reported in Table 19.

TABLE 19: PREFERENCE FOR BACHELOR'S OR MASTER'S DEGREE RECIPIENT FOR JOB REQUIRING BACHELOR'S DEGREE, BY SIZE OF COMPANY

Question 14.

	Size of Company								Total	
	100-249		250-499		500-999		1000 +			
Preference	n	%	n	%	n	%	n	%	n	%
Bachelor's	22	27.8	28	36.8	27	41.5	21	42.8	98	36.4
No difference	39	49.4	32	42.1	27	41.5	17	34.7	115	42.8
Master's	18	22.8	16	21.1	11	16.9	11	22.4	56	20.8

χ^2=4.88960 df=6 p=.5580

Forty-three percent of the respondents indicated that at this level the degree would not make a difference. The most frequent comment was that they would evaluate the individual's qualifications without concern for the degree, as long as the requirements of a bachelor's degree was met.

Thirty-six percent of the respondents stated that they would show preference to the bachelor's degree recipient in this situation. It was generally agreed by these people that the individual with the higher degree would not be satisfied in such a position. The 21 percent who chose the master's recipient generally felt such a person would be more promotable or a more productive employee.

* * * * *

Though in many cases, employers appeared to prefer hiring individuals with higher than minimum educational requirements to do a job, it was not known how willing they were to pay higher salaries to college graduates than to high school graduates. The interviewees were asked how frequently they were willing to pay more to a college graduate for doing the same type of work as a high school graduate. Table 20 represents the responses to this question.

TABLE 20: WILLINGNESS TO PAY MORE TO A COLLEGE GRADUATE, BY SIZE OF COMPANY

Question 15.

Extent of Willingness	Size of Company 100-249		250-499		500-999		1000 +		Total	
	n	%	n	%	n	%	n	%	n	%
Always	3	3.8	1	1.3	1	1.5	5	10.4	10	3.7
Often	9	11.4	9	11.8	4	6.1	3	6.3	25	9.3
Sometimes	18	22.8	25	32.9	19	28.8	8	16.7	70	26.0
Rarely	26	32.9	18	23.7	25	37.9	12	25.0	81	30.1
Never	23	29.1	23	30.3	17	25.8	20	41.7	83	30.9

χ^2=18.91654 df=12 p=.0906

Thirteen percent of the respondents indicated that they always or often were willing to pay more to a college graduate for doing the same type of work as a high school graduate. Twenty-six percent said they were sometimes willing to do so, and 61 percent of the respondents said that they rarely or never did so. A number of respondents indicated that they believed such a procedure would be illegal in that it would be a form of discrimination. Union contracts also were indicated as influencing many answers by limiting salary flexibility.

The implication of this reponse is that though many employers may prefer to hire beyond the minimum educational requirement for a position, they are not usually willing or able to pay extra for better educated people. The college degree is not immediately translated to mean higher salary for the individual but generally has this meaning only when the degree recipient is able to obtain a job at a higher level of duty or responsibility which calls for his educational background. College graduates who, for one reason or another, are induced to accept positions considered below that which their education would indicate,are considered underemployed and do not usually receive higher salaries than those with lower educational attainment.

* * * * *

The entire issue of underemployment involves a great deal of subjectivity. It was found that the interview respondents were generally opposed to underemployment and that they would recommend to an individual that he not accept such a position, viewing it as bad for the person and bad for the hiring company. However, though the respondents agreed with the definition of underemployment presented to them, they differed in its interpretation.

These differences sometimes involved the organizational structure of the company. For example, if the lines of promotion were virtually closed beyond a certain point, then a person accepting underemployment might find no opportunity to advance and would either bear a frustrating situation or soon leave the company. On the other hand, if promotion was a possibility, there was more tendency to recommend underemployment as a means of learning about the company and proving oneself to be a competent employee. Underemployment, then, is viewed not only as the relationship between a job and education or experience, but also takes into account the period of time it is expected that the individual will hold that job before the opportunity for promotion arises.

This factor of promotability appears to be the major factor influencing the hiring preferences of employers, as depicted in Table 18 and Table 19, and explains what might otherwise be viewed as a discrepancy in the respondents' preferences. Though two-thirds of them appeared to be against the principle of underemployment, more than half of them would prefer a person with at least some postsecondary level education for a job requiring a high school diploma, and only about one third distinctly preferred a person with no more than a bachelor's degree for a job with that level as a minimum requirement. Underemployment was a concern of the respondents, but where promotion might be a factor many of them preferred, or at least were open to considering equally, a person with a higher level of educational attainment.

In the preceding discussion on underemployment it was noted that promotability was viewed as a determinant in considering whether or not a person was underemployed. The actual relationship between promotion and education was also studied. The respondents were asked how frequently an employee's educational background is taken into account when he is considered for promotion to managerial or professional levels of occupation. Their responses are presented in Table 21.

TABLE 21: CONSIDERATION OF EDUCATIONAL BACKGROUND FOR PROMOTION, BY SIZE OF COMPANY

Question 16.

Frequency Considered	Size of Company 100-249		250-499		500-999		1,000 +		Total	
	n	%	n	%	n	%	n	%	n	%
Always	30	37.5	34	44.2	35	53.8	28	57.1	127	46.9
Often	18	22.5	25	32.5	19	29.2	10	20.4	72	26.6
Sometimes	18	22.5	7	9.1	7	10.8	7	14.3	39	14.4
Rarely	8	10.0	9	11.7	3	4.6	3	6.1	23	8.5
Never	6	7.5	2	2.6	1	1.5	1	2.0	10	3.7

χ^2=18.71886 df=12 p=.0955

Nearly half of the respondents indicated that they always considered the educational background of an individual when considering him/her for promotion to a professional or managerial level position, and an additional 27 percent stated that this was often a consideration. When asked to estimate the importance of educational background in promotional consideration, twenty-three percent of the respondents indicated that, when educational background was taken into account, it was a very important factor. Sixty-one percent stated that it was an important factor while only sixteen percent considered it to be a minor factor.

Based upon these responses, it would appear that educational background is generally considered an important factor in promotion to professional or managerial positions. This supports the view that, though an individual with a college education may start out in a position which does not require a college degree, he is more likely to be considered for promotion to a higher position within a reasonable period of time.

Instead of immediately occupying positions of professional or managerial natures, many college graduates may have to experience a period of time in which they will consider themselves underemployed, but as they learn about the company and prove themselves on-the-job, they can anticipate advancement. As a result, assessment of underemployment and follow-up studies of graduates might be more meaningful if undertaken a full year or two after an individual has left a postsecondary institution.

* * * * *

VIEWS TOWARD THE PREPARATION OF COLLEGE STUDENTS FOR EMPLOYMENT

When asked for suggestions concerning ways that colleges and universities can improve the manner in which they prepare students to meet the needs of employers, the interviewees offered a wide variety of responses. Many of these suggestions were actual problem-solving techniques, such as the establishment of cooperative programs, while others were the identification of a problem without a specific suggestion for solution, such as the need for students to be made more work-oriented. It should also be noted that a sizable number of respondents expressed the view that higher education was doing a good job of preparing students for employment.

Many respondents were of the opinion that students are not getting adequate work experience and that they do not have sufficient understanding of business and industry.

Suggestion	Frequency Mentioned
Increase support for cooperative programs, work-study programs, and internship programs.	59
Encourage students to get work experience or practical experience.	26
Provide students with a better understanding of business and industry.	13
Make students more work-oriented.	8
Expose students to the business-industry environment.	5

There appeared to be a commonly held view that many students complete academic programs, even in such fields as engineering and business, without having had adequate exposure to the world of work. They noted that students acquired little understanding of the nature of business-industry and were not work-oriented, and the respondents believed that actual work experience would help alleviate this problem. In this regard, the support for programs such as cooperative programs, work-study programs, and internship type programs was overwhelming. Fifty-nine respondents specifically mentioned programs of this nature as being of great value, and an additional 26 respondents suggested that students be encouraged to get practical work experience.

Many respondents felt that communication between higher education and business-industry is inadequate.

Suggestion	Frequency Mentioned
Have representatives of business and industry teach or speak in the classroom.	20
See that teachers have more knowledge of business and industry.	16
More communication between business and industry is needed.	10

Ten respondents noted the general observation that there is a need for more communication between business/industry and education without offering specific suggestions for enhancing communication. Twenty respondents suggested that representatives of business and industry should be invited to teach or speak in the classroom to tell students about the realities of business and work. These suggestions ranged from inviting an occasional guest speaker to classroom or seminar sessions to actual employment of representatives of business and industry on a year's basis as teachers.

Sixteen respondents felt that it would be of great value if teachers had more knowledge of business and industry. Even those teaching in the area of business, they felt, had good academic knowledge but had, in many cases, lost touch with what was actually happening. A number of respondents suggested that faculty members should spend more time talking with respresentatives of business and industry, while some respondents felt that business professors in particular should, on occasion, spend periods of time working for a private company.

A number of respondents offered suggestions which might relate to the actual or potential functions of career counselors or placement officers at the colleges and universities.

Suggestion	Frequency Mentioned
Help students develop more realistic expectations concerning potential job levels and salaries.	17
Offer better career counseling and placement services.	13
Students should be prepared in interviewing for jobs.	10
Offer career counseling early in a student's academic program.	6
Study manpower requirements for counseling and program planning.	6
Provide special recruiting and counseling for minority group students and females.	6
Offer career planning courses.	3

Many respondents were of the opinion that career counseling and placement activities could help in preparing students for employment. A large number felt that students' lack of information concerning labor market demands, the types of employment they could expect, and methods of seeking employment worked against them.

It was particularly evident that many employers were upset about the fact that college-educated applicants appeared to expect to enter immediately into high salary positions with high levels of responsibility. They felt that too many recent graduates wanted to "walk in and run the company," and they held the colleges and universities somewhat responsible for this delusion. It was suggested by some employers that career counselors, placement officers, and faculty members unintentionally mislead students when they discuss potential employment levels and salaries with them, and they felt that students should be given more realistic expectations.

A sizable number of respondents also claimed that college students needed instruction in the process of interviewing for jobs. Many recent graduates, they claimed, were unaware of the type of dress, speech, or attitudes most conducive to gaining employment through the interview process.

Some respondents suggested that career counseling should begin early in a student's career, at a time when he is able to restructure his academic program to prepare for a desired type of employment. Others noted that career planning courses should be offered whereby students could learn of the types of jobs available and how to prepare for them. Six respondents also expressed the suggestion that special counseling and recruiting opportunities should be available for females and minority group students.

Many respondents suggested that academic programs could improve the manner in which they prepare students for work.

Suggestion	Frequency Mentioned
College learning is too theoretical, not practical or realistic.	24
Help students develop communication skills.	17
Help students develop human relations skills.	8
Reduce course requirements outside the major.	8
Offer courses more specifically related to business-industry.	7
Introduce more of a vocational-technical orientation to academic programs.	7
Develop students' math or analytical skills.	3

There appeared to be a widely held opinion that colleges and universities placed too much emphasis on theoretical matters and not enough on the practical application of theory. These respondents felt that a more even balance between theory and practice would better enable college students to move from school to work.

A number of respondents felt that the development of certain skills, primarily communication skills and human relations skills, should be emphasized to a greater extent in college. They claimed that education in a specific area rarely guaranteed job success, and that the ability to speak and write clearly, and the ability to get along with others were particularly important factors in job success for college graduates. Many graduates, they claimed, lacked these basic skills.

Some respondents also were of the opinion that more courses related specifically to business-industry should be offered, and that more programs involving vocational-technical training would help prepare students for work.

* * * * *

Each respondent was asked for the <u>one</u> <u>best</u> piece of advice he would offer to a college freshman who wanted to pursue a career with that company. Nearly all of the interviewees offered such advice, and some mentioned more than one suggestion which they thought would be helpful to such a person.

Many respondents indicated that they would recommend to a freshman that he major in a specific subject area or program as the best means of obtaining employment with their company. Among those who indicated that they would recommend a specific major field of study, the most frequently mentioned field, by far, was engineering. Thirty respondents suggested that such a person pursue a major in engineering, and an additional thirteen indicated specific fields of engineering which would be most beneficial.

The area of business was also frequently mentioned as one from which a job aspirant should choose a major. Four respondents simply stated that a major in the business area would be beneficial, while nine respondents suggested that the person major in business administration, nine respondents suggested sales or marketing, and six claimed that the best way to prepare for employment with their company was to major in accounting.

A number of respondents made recommendations involving academics but not major field choices. These individuals did not seem so greatly concerned with a person's major as with their broad academic backgrounds. Many were concerned that the person not become confined to an area of specialization too early. Twenty mentioned that the best way to prepare for employment with their company was to take coursework of a general or liberal arts nature in order not to become overly confined to a narrow specialty.

Numerous other respondents mentioned that knowledge in technical and/or business areas would be the best way to prepare for a job. Accounting and mathematics backgrounds were important to some respondents, while others emphasized the fact that coursework should be related to a person's career and should be practical in nature. It would appear that the preferred balance between general studies and specialization for new hires covers a broad spectrum in the eyes of employers and that emphases upon both general studies and specialization have many supporters.

Many respondents indicated recommendations that were of a general nature, some involving philosophical or attitudinal development. Most frequently mentioned were the development of human relations skills and the importance of academic excellence.

Many employers, on the other hand, appeared to consider experience in job-related activities to be at least as important as any academic recommendations they could make. Sixty respondents, or nearly one quarter of all those interviewed, indicated that the college student would be greatly aided in obtaining employment with their company if he gained some form of practical or work experience while in college. Nearly half of these sixty specified that the experience should be related to the individual's chosen field, and eight suggested that experience through a cooperative or apprenticeship program would be particularly valuable. Another eight respondents noted that, upon graduation, the person should be willing to start work at any level or salary in order to gain experience at the job and with the company.

* * * * *

EXTERNAL EDUCATIONAL OPPORTUNITIES

The respondents were asked whether or not they provided educational opportunities,outside the company, for their employees. The responses to this question are reported in Table 22.

TABLE 22: PROVISION OF EXTERNAL EDUCATION OPPORTUNITIES, BY SIZE OF COMPANY

Question 18.

	Size of Company									
Educational Opportunities	100-249		250-499		500-999		1,000 +		Total	
	n	%	n	%	n	%	n	%	n	%
Provided	61	76.3	68	87.2	65	98.5	45	93.8	239	87.9
Not provided	19	23.8	10	12.8	1	1.5	3	6.2	33	12.1

χ^2=18.7003 df=3 p=.0006

The data of Table 22 indicate that 88 percent of the companies interviewed provide external educational opportunities for their employees. This type of benefit was provided by larger proportions of companies in the two largest size groupings than in the smaller groupings.

Programs whereby employees could further their formal education were not necessarily available to all of the employees of a company. Those respondents who indicated that their company provided external educational opportunities were then asked for whom such programs were available. The responses to this question are presented in Table 23.

TABLE 23: POTENTIAL RECIPIENTS OF EXTERNAL EDUCATIONAL OPPORTUNITIES

Question 18.

Potential Recipients	Companies	
	n	%
Any employee	170	71.1
Salaried employees only	28	11.7
Management only	17	7.1
Other groups of employees	24	10.0
Total	239	100.0

More than seventy percent of the respondents indicated that the external educational opportunities provided by their company were available to any employee.

The respondents were asked whether or not the courses or degrees made available through the company's educational program had to be job-related. The responses to this question are reported in Table 24.

TABLE 24: TYPES OF EDUCATIONAL OPPORTUNITIES PROVIDED

Question 18.

Type of Program Supported	Companies n	Companies %
Only job-related	158	66.4
Job-related with exceptions	52	21.8
Any coursework desired	27	11.3
No formal policy	1	0.4
Total	238	100.0

Two-thirds of the respondents indicated that educational opportunities were available only for job-related courses or programs. An additional 22 percent stated that such programs were intended to include only job-related educational offerings, but that this policy was liberally interpreted and that exceptions were made. It was noted by many respondents that"job-related" did not only apply to the employee's current occupation but extended to his employment potential within the company. Eleven percent indicated that any coursework desired by the employee was supported.

The respondents were asked whether or not their company's educational support included full postsecondary level degree programs and, if so, what degrees were made available. The responses to this question are reported in Table 25.

TABLE 25: DEGREES AVAILABLE THROUGH EXTERNAL EDUCATION PROGRAMS

Question 18.

Degree Levels Available	Companies n	Companies %
Undergraduate (only)	38	16.4
Associate only	(6)	(2.6)
Bachelor's only	(5)	(2.2)
Associate and bachelor's	(27)	(11.6)
Graduate (only)	2	0.9
Both undergraduate and graduate	166	71.6
No degrees available	24	10.3
No established policy	2	0.9
Total	232	100.0

More than seventy percent of the respondents indicated that degrees at both the undergraduate and graduate level were available through their external education programs. Sixteen percent of the companies supported only undergraduate degree work.

Ten percent of the companies providing educational opportunities for employees did not support programs to the extent that complete degrees could be earned. In most cases these companies were willing to reimburse employees for taking a limited number of courses related specifically to their employment.

The provision of external educational opportunities involved the payment or reimbursement of the cost of tuition for coursework pursued. The respondents were asked the percentage of these costs paid by the company, and the responses to this question are reported in Table 26.

TABLE 26: PERCENTAGE OF TUITION PAID BY COMPANIES IN EXTERNAL EDUCATION PROGRAMS

Question 18.

Percent Paid	Companies n	Companies %
100 percent	155	65.1
51-99 percent	34	14.3
50 percent	14	5.9
Variable or conditional	35	14.7
Total	238	100.0

Nearly two-thirds of the respondents indicated that they provide 100 percent of the tuition costs for employees engaged in approved educational programs. A number added that books and supplies were also provided by the company. Fourteen percent of the companies paid for more than half but 'ess than all of the tuition costs. In nearly all cases the percentage paid ranged from sixty to eighty percent. An additional six percent of the companies paid fifty percent of the tuition costs.

Fifteen percent of the respondents indicated that the percentage of tuition paid by the company was variable or conditional. In 15 cases, the percentage paid was related to the course grades received by the employee. Others based the percentage of the company's payment upon the type of employment of the person taking the course or upon the nature of the coursework.

IMPORTANCE OF FACTORS IN CONSIDERING EMPLOYMENT APPLICATIONS

It is recognized that numerous factors can be taken into account in the process of evaluating an employment application. The relative importance of such factors commonly considered in this process were investigated. Because the nature of the job may affect the degree to which these factors are considered, the respondents were asked to judge the importance of each factor in evaluating applications to each of five occupational categories.

TABLE 27: IMPORTANCE OF FACTORS IN EVALUATING APPLICATIONS FOR PROFESSIONAL, TECHNICAL, AND KINDRED POSITIONS

Factor	Very Important	Important	Minor Importance	Not Considered
Communication skills	67.4%	29.5%	2.3%	0.8%
College grades	12.1	74.0	12.5	1.5
Prestige of college attended	1.5	19.9	57.9	20.7
Recommendations of teachers	8.0	44.3	42.0	5.7
Major field of study	59.1	29.4	1.5	0.0
Personal appearance	25.6	57.1	16.2	1.1
Degree received or years of college	32.3	60.9	6.4	0.4
Previous work experience	44.2	44.2	11.7	0.0
Impression of personality	35.8	55.1	8.7	0.4
Career goals	33.1	56.4	10.5	0.0
Familiarity with company	5.3	17.4	58.5	18.9
Extracurricular activities	4.1	30.1	54.9	10.9
Recommendations of former employers	38.7	47.0	13.2	1.1

Communications skills and the major field of study of an individual stood out as being, by far, the most important factors in evaluating applications to professional, technical and kindred positions. More than thirty percent of the respondents also indicated that previous work experience, the recommendations of former employers, their impression of the applicant's personality, his career goals, and his degree received or years of college were very important. Fifty percent or more felt that the prestige of the college attended, the familiarity with the company, and extracurricular activities were of little or no importance.

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TABLE 28: IMPORTANCE OF FACTORS IN EVALUATING APPLICATIONS FOR MANAGERIAL AND OFFICIAL POSITIONS

Factor	Very Important	Important	Minor Importance	Not Considered
Communication skills	88.3%	11.7%	0.0%	0.0%
College grades	8.0	70.5	18.9	2.7
Prestige of college attended	0.4	18.6	53.4	27.7
Recommendations of teachers	7.2	36.0	47.3	9.5
Major field of study	30.3	58.3	11.4	0.0
Personal appearance	43.4	50.6	6.0	0.0
Degree received or years of college	24.2	57.4	17.0	1.5
Previous work experience	49.1	39.6	10.6	0.8
Impression of personality	50.8	46.6	2.3	0.4
Career goals	49.2	43.9	6.4	0.4
Familiarity with company	14.8	29.5	45.1	10.6
Extracurricular activities	4.2	32.6	49.2	14.0
Recommendations of former employers	43.0	43.8	10.9	2.3

Eighty-eight percent of the respondents indicated that communication skills were very important for applicants to managerial and official types of positions. Other factors indicated as being very important by more than thirty percent of the respondents were the personality of the applicant, career goals, previous work experience, personal appearance, recommendations of former employers, and the major field of study. Factors considered of minor or no importance by more than half of the respondents were the prestige of the college attended, extracurricular activities, recommendations of teachers, and familiarity with the company.

Some of the differences in the importance of factors considered in evaluating applicants between professional-technical-kindred and managerial-official positions are of interest. For the former category, academic-related factors such as the major field of study and the degree received or years of college were relatively more important, while for the latter personal attributes such as personality, appearance, and career goals were of greater importance.

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TABLE 29: IMPORTANCE OF FACTORS IN EVALUATING APPLICATIONS FOR SALES POSITIONS

Factor	Very Important	Important	Minor Importance	Not Considered
Communication skills	91.6%	7.9%	0.5%	0.0%
College grades	2.6	48.7	42.9	5.8
Prestige of college attended	1.1	12.7	58.7	27.5
Recommendations of teachers	4.7	37.9	48.4	8.9
Major field of study	11.2	47.3	39.4	2.1
Personal appearance	74.7	24.7	0.5	0.0
Degree received or years of college	9.5	48.1	39.7	2.6
Previous work experience	44.2	46.8	8.9	0.0
Impression of personality	75.7	22.8	1.6	0.0
Career goals	28.4	58.4	13.2	0.0
Familiarity with company	18.0	33.3	37.6	11.1
Extracurricular activities	11.6	34.2	43.2	11.1
Recommendations of former employers	40.0	45.3	13.2	1.6

More than ninety percent of the respondents considered communication skills to be a very important factor in considering applicants for sales positions and three-quarters considered both the personality and the appearance of the applicant to be very important. The previous work experience and the recommendations of former employers were viewed as being very important by forty percent or more. More than half of the interviewees indicated that the prestige of the college attended, the recommendations of teachers, and extracurricular activities were of little or no importance for such positions.

Personality and appearance were considered to be much more important factors regarding applicants to sales positions than to managerial or official positions. On the other hand, career goals, the major field of study, and the degree received or years of college were more important factors in evaluating applicants to managerial and official positions.

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TABLE 30: IMPORTANCE OF FACTORS IN EVALUATING APPLICATIONS FOR CLERICAL POSITIONS

Factor	Very Important	Important	Minor Importance	Not Considered
Communication skills	39.3%	50.0%	10.7%	0.0%
College grades	3.0	42.0	45.7	9.3
Prestige of college attended	0.0	5.2	49.8	44.9
Recommendations of teachers	7.8	46.3	34.3	11.6
Major field of study	12.8	48.5	32.7	6.0
Personal appearance	27.6	54.9	16.8	0.7
Degree received or years of college	3.0	24.3	60.7	12.0
Previous work experience	31.0	53.7	14.9	0.4
Impression of personality	29.1	58.2	12.7	0.0
Career goals	12.3	39.4	44.2	4.1
Familiarity with company	2.2	10.4	58.2	29.1
Extracurricular activities	1.9	12.7	55.1	30.3
Recommendations of former employers	40.5	48.2	8.6	2.6

Recommendations of former employers, communication skills, and previous work experience were the only factors viewed as very important by more than thirty percent of the respondents when evaluating an application for a clerical position. The prestige of the college attended, extracurricular activities, familiarity with the company, degree received or years of college, and college grades were all of little or no importance to more than half of the interviewees concerning hiring to clerical positions.

* * * * *

TABLE 31: IMPORTANCE OF FACTORS IN EVALUATING APPLICATIONS FOR FOREMEN POSITIONS

Factor	Very Important	Important	Minor Importance	Not Considered
Communication skills	48.5%	40.7%	9.5%	1.2%
College grades	1.7	35.3	49.4	13.7
Prestige of college attended	0.0	4.1	52.3	43.6
Recommendations of teachers	4.6	36.1	41.9	17.4
Major field of study	13.7	47.1	28.8	10.4
Personal appearance	16.5	56.2	25.2	2.1
Degree received or years of college	4.6	35.3	46.9	13.3
Previous work experience	54.5	39.8	5.0	0.8
Impression of personality	32.0	54.8	12.0	1.2
Career goals	21.6	58.5	17.4	2.5
Familiarity with company	11.2	27.7	46.3	14.9
Extracurricular activities	2.5	14.6	53.7	29.2
Recommendations of former employers	46.3	43.4	7.9	2.5

Previous work experience, communication skills, recommendations of former employers, and personality were all rated very important factors by more than thirty percent of the respondents when hiring to positions of foreman. Factors involving prestige of college attended, extracurricular activities, recommendations of teachers, degree received, or years of college, and familiarity with the company were of little or no importance to more than half of the respondents in this regard.

* * * * *

TABLE 32: RANK ORDERING* OF IMPORTANCE OF FACTORS IN CONSIDERING EMPLOYMENT APPLICANTS, BY OCCUPATIONAL CATEGORY

Rank Order of Importance	Professional, Technical & Kindred	Managers & Officials	Salesmen	Clerical	Foremen
1.	Communication skills	Communication skills	Communication skills	Communication skills	Previous work experience
2.	Major field of study	Impression of personality	Impression of personality	Recommendations of former employers	Communication skills
3.	Previous work experience	Career goals	Personal appearance	Previous work experience	Recommendations of former employers
4.	Recommendations of former employers	Previous work experience	Previous work experience	Impression of personality	Impression of personality
5.	Impression of personality	Personal appearance	Recommendations of former employers	Personal appearance	Career goals
6.	Career goals	Recommendations of former employers	Career goals	Career goals	Personal appearance
7.	Degree received or years of college	Major field of study	Familiarity with company	Major field of study	Major field of study
8.	Personal appearance	Degree received or years of college	Major field of study	Recommendations of teachers	Familiarity with company
9.	College grades	Familiarity with company	Degree received or years of college	College grades	Degree received or years of college
10.	Recommendations of teachers	College grades	Extracurricular activities	Degree received or years of college	College grades
11.	Familiarity with company	Recommendations of teachers	Recommendations of teachers	Extracurricular activities	Recommendations of teachers
12.	Extracurricular activities	Extracurricular activities	College grades	Familiarity with company	Extracurricular activities
13.	Prestige of college attended	Prestige of college attended	Prestige of college attended	Prestige of college attended	Prestige of college attended

*Rank order was determined by subtracting percentage of "not considered" responses from percentage of "very important" responses.

Table 32 presents a rank ordering of the relative importance of the thirteen factors taken into account in considering employment applicants, by the occupational category of the job sought. It is apparent from the rankings that the relative importance of these factors varies widely with the occupational category.

A number of factors stood out as being of relatively great importance for all of the occupational categories. These were communication skills, previous work experience, and the employer's impression of the applicant's personality. It is of interest that a factor such as personal appearance was rated above college grades and recommendations of teachers for all five categories.

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SURVEY OF EMPLOYERS OF 50 TO 99 PERSONNEL

Introduction

It was recognized that many smaller companies also employ college graduates and that the opinions and practices of these companies are important. In order to gain a better understanding of the hiring practices of these companies it was decided that a short questionnaire, based upon selected questions of the interview format, would be sent to a randomly selected sample of the employers of fifty to 99 personnel in the study's four Indiana Regions.* There are over 2,500 such companies in the state employing a total of more than 175,000 workers. The questionnaire was sent to 437 companies, and 300 usable returns, representing a response rate of 69.9 percent, were received. The findings of this survey have been related to those from comparable questions asked in the interview survey for purposes of comparison.

Findings

The respondents were asked to estimate the percentage of their company's current employees who were college graduates with associate degrees or higher. The responses to this question are reported in Table 33.

TABLE 33: COLLEGE GRADUATES (ASSOCIATE DEGREE OR HIGHER) AS PERCENT OF TOTAL EMPLOYEES

Percent Ranges	Number of Companies	Percent
0-5 Percent	185	61.9
6-10	56	18.7
11-20	35	11.7
21-40	14	4.7
Over 40	9	3.0
Total	299	100.0

More than sixty percent of the respondents reported that no more than five percent of their company's employees had received college degrees at the associate degree level or higher. This was higher than the 43 percent of the large companies which reported employing five percent or fewer of bachelor's or higher degree recipients. (Different degree levels were discussed in this question in the two surveys in order to maintain consistency and simplicity in the mailed questionnaire instrument.) It would appear, therefore, that the smaller sized companies have less of a tendency to employ college graduates, at least as this relates to the proportion of their total work force.

* * * * *

*See final page of this section for a copy of the questionnaire.

The respondents were asked whether they expected that the percentage of their employees who were college graduates would increase, stay about the same, or decrease over the next three to four years.

TABLE 34: ANTICIPATED CHANGE IN PERCENTAGE OF EMPLOYEES WHO ARE COLLEGE GRADUATES

Change in Percentage	Number of Companies	Percent
Increase	69	23.1
Stay about the same	223	74.6
Decrease	7	2.3
Total	299	100.0

Twenty-three percent of the respondents anticipated an increase in the proportion of their employees who were college graduates. This was much lower than the 58 percent of the respondents from larger companies who expected such an increase (Table 12, page 19).

* * * * *

The respondents were asked the educational background which would be considered most desirable for a position which required no more than a high school diploma.

TABLE 35: DESIRED EDUCATIONAL BACKGROUND FOR A POSITION REQUIRING ONLY A HIGH SCHOOL DIPLOMA

Educational Background	Number of Companies	Percent
High school diploma	137	46.4
Some college/no degree	93	31.5
Associate degree	42	14.2
Bachelor's degree	23	7.8
Total	295	100.0

Nearly half of the respondents indicated that they would prefer to hire a person with no more formal education than a high school diploma for a position requiring the diploma, and approximately one third preferred some college but no degree as an educational background for such a position. The responses received to this question were very similar to those received from the interview respondents at the larger companies (Table 18, page 31).

* * * * *

The respondents were asked how frequently they were willing to pay more to a college graduate for doing the same type of work as a high school graduate.

TABLE 36: WILLINGNESS TO PAY MORE TO A COLLEGE GRADUATE

Frequency	Number of Companies	Percent
Always	21	7.1
Often	28	9.4
Sometimes	97	32.7
Rarely	87	29.3
Never	64	21.5
Total	297	100.0

Approximately half of the respondents indicated that they are at least sometimes willing to pay more to a college graduate than a high school graduate for doing the same type of work. This was noticeably higher than the comparable figure of 39 percent obtained in the interview survey of larger employers (Table 20, page 33).

* * * * *

The respondents were asked how frequently they take an employee's educational background into account when promotion is considered.

TABLE 37: CONSIDERATION OF EDUCATIONAL BACKGROUND IN PROMOTION

Frequency Considered	Number of Companies	Percent
Always	34	11.4
Often	83	27.9
Sometimes	102	34.2
Rarely	53	17.9
Never	26	8.7
Total	298	100.0

Approximately forty percent of the respondents indicated that they always or often took educational background into account when considering an individual for promotion. This was much lower than the comparable percentage of 73 percent obtained from larger companies (Table 21, page 34).

* * * * *

The respondents were asked whether or not they were able to locate and hire college-educated people to fill all of the positions for which they desired them.

TABLE 38: ABILITY TO LOCATE AND HIRE DESIRED COLLEGE GRADUATES

Ability to Locate	Number of Companies	Percent
Able	229	81.2
Unable	53	18.8
Total	282	100.0

More than eighty percent of the respondents reported no difficulty in locating and hiring college-educated people to fill all of the positions for which such a background was desired. Those who had had difficulty were asked to specify the occupations for which they had experienced this problem. Only 38 companies identified occupations to which they had experienced difficulty in locating and hiring college-educated people. Of the 55 occupations named, 21 were in the professional, technical and kindred occupational category and eleven of these were engineers. A number of employers also reported difficulty in hiring people to managerial, sales, and foreman positions. In general it appears that with the possible exceptions of engineering and sales, these companies were not experiencing problems in locating and hiring educationally qualified college graduates.

* * * * *

The respondents were asked whether or not a liberal arts, social science, or education major had more chance of obtaining a job with their company if the person had taken some courses of a business or technical nature.

TABLE 39: EMPLOYABILITY OF LIBERAL ARTS, SOCIAL SCIENCE, OR EDUCATION MAJORS WITH COURSES OF BUSINESS OR TECHNICAL NATURE

Chance for Employment	Number of Companies	Percent
Improved	173	59.7
Not improved	117	40.3
Total	290	100.0

Sixty percent of the respondents indicated that courses of business or technical nature would improve the employability of a liberal arts, social science, or education major. This was significantly below the comparable percent of 81 percent obtained for larger companies (Table 15, page 25).

* * * * *

The respondents were questioned regarding the influence of a variety of degree programs upon a person's employability with their company. Their responses are presented in Table 40.

TABLE 40: INFLUENCE OF MAJOR AREAS OF STUDY UPON GENERAL EMPLOYABILITY

Major Area of Study	Strong Positive Influence	Mild Positive Influence	Minor or No Influence	Mild Negative Influence	Strong Negative Influence	Unfamiliar With Program
Two-year/bus.&comm. tech.	25.4%	50.0%	22.2%	1.2%	0.4%	0.8%
Two-year/data proc. tech.	11.9	26.3	53.0	4.2	2.1	2.5
Two-year/mech.&engr. tech.	19.2	37.5	33.3	4.6	2.9	2.5
Bach./bus., acctg., mgmt.	50.0	34.7	12.9	1.6	0.0	0.8
Bach./sci. (biol.&phys.)	6.8	12.3	61.3	9.4	7.2	3.0
Bach./engr. or tech.	29.5	25.3	34.0	4.6	5.4	1.2
Bach./lib. arts or social sci.	6.8	27.5	51.7	7.6	4.7	1.7
Bach./math or computer sci.	15.2	31.2	42.6	5.5	3.8	1.7
Bach./education	2.1	16.7	60.3	9.8	9.4	1.7

The only degree program which had a strong positive effect upon employability for more than half of the respondents was a bachelor's degree in business, accounting, or management. Other programs having a positive (strong or mild) influence upon more than half of the respondents were, at the bachelor's level, engineering or technology and, at the associate level, business and commerce technologies, and mechanical and engineering technologies. The programs in business and technical areas had a positive influence upon employability while those of a more general nature appeared to have little or no influence upon most of these employers. In comparing these responses with those obtained in the survey of larger companies (Table 13, page 21) it becomes apparent that, for all academic areas, the college degree had a more positive influence in the larger companies.

* * * * *

The respondents were then asked to indicate the influence upon general employability of a number of types of experience.

TABLE 41: INFLUENCE OF TYPES OF EXPERIENCE UPON GENERAL EMPLOYABILITY

Experience	Strong Positive Influence	Mild Positive Influence	Minor Or No Influence	Mild Negative Influence	Strong Negative Influence	No Response
Full-time job during college not related to prospective employment	17.4%	38.2%	36.9%	4.1%	3.3%	0.0%
Summar job, related to prospective employment	44.8	40.0	13.6	0.0	1.6	0.0
Officer in military	8.6	30.5	49.8	6.0	3.9	1.3
Enlisted in military	2.6	28.2	61.1	3.4	3.8	0.9
Year or more full-time work between years of college not job-related	9.7	34.9	52.1	2.1	1.3	0.0
A year of travel	1.3	9.1	66.4	12.9	9.5	0.9
Peace Corps or Vista	3.0	17.2	63.4	9.1	6.0	1.3
Volunteer job, related to prospective employment	17.2	43.3	33.5	3.0	1.3	1.7

As was found with employers in the larger companies (Table 14, page 23), these respondents were most positively influenced by a summer job related to the prospective employment. A volunteer job related to prospective employment and a full-time job during college not related to prospective employment were also regarded positively by more than half of the respondents. All of the other types of experience listed were considered to be of minor or no influence upon general employability by fifty percent or more of the respondents. In general, these smaller companies appeared to be less influenced by the listed types of experience than were the larger companies.

* * * * *

The respondents were asked to indicate the jobs for which they employed, or preferred employing, college graduates. The responses are presented in Table 42.

TABLE 42: OCCUPATIONS FOR WHICH COLLEGE GRADUATES ARE DESIRED

Occupation	Number of Companies
Professional, Technical and Kindred	177
Engineers	51
Life & physical scientists	9
Mathematical specialists	3
Technicians (science & engr.)	8
Medical workers	3
Health technologists & technicians	3
Computer specialists	16
Writers & artists	11
Accountants	59
Other	14
Managers, Officials & Proprietors	189
Buyers, sales and loan managers	35
Other managers	154
Sales workers	58
Clerical workers	27
Craftsmen, foremen & kindred	5
Service workers	4
Total responses	460
Number of respondents	227
Nonrespondents	73

It is apparent that a variety of employment opportunities for college graduates exist in companies of fifty to one hundred personnel and, it is probably the case, in smaller companies as well. However, these opportunities are limited, as evidenced by the fact that many of the respondents to this question indicated that they simply do not employ college graudates. The vast majority of jobs for which these employers seek college graduates are in the professional, technical, and kindred or the managerial, official, and proprietor categories.

* * * * *

STATE OF INDIANA
COMMISSION FOR HIGHER EDUCATION

143 WEST MARKET STREET
INDIANAPOLIS, INDIANA 46204

Office use only

_____

QUESTIONNAIRE SURVEY OF EMPLOYERS

Dear Sir/Madam:

The Indiana Commission for Higher Education is a state agency responsible for the coordination of public postsecondary institutions in the state, and is charged to take the private institutions' resources into account in its planning. In order to perform better its duties in these areas, the Commission is undertaking a major study of college level manpower supply and demand.

This short questionnaire is related to that manpower study. It has been designed for employers of approximately 50 to 100 personnel and will help us develop a more accurate picture of the educational backgrounds preferred by employers in Indiana. The findings of the study will be used by the Commission in its program evaluation process and should also be of value to students as they plan for various occupations. An interview study dealing with the hiring preferences of larger employers is currently in progress.

Your company has been chosen for participation by a random selection process. We hope that you will complete the questionnaire and return it to us in the enclosed, self-addressed envelope today. All individuals' responses will remain confidential.

Sincerely,

Robert Greenberg

Robert Greenberg, Ed.D.
Project Director - Manpower

PLEASE RESPOND TO EACH OF THE FOLLOWING QUESTIONS BY PLACING A CHECK (✓) IN THE APPROPRIATE SPACE

1. What would you estimate to be the percentage of your current employees who are college graduates? (Two-year associate degree or higher)
   _____0 - 5%
   _____6 - 10%
   _____11 - 20%
   _____21 - 40%
   _____More than 40%

2. Do you expect that this percentage is going to increase, stay about the same, or decrease over the next three to four years?
   _____Increase
   _____Stay about the same
   _____Decrease

3. In general, which of the following educational backgrounds would be considered MOST DESIRABLE for a position which REQUIRED no more than a high school diploma? (Assume that all will work for the same salary.)
   _____High school diploma
   _____Some college but no degree
   _____Associate degree (Two-year college)
   _____Bachelor's degree

4. How frequently are you willing to pay more to a college graduate for doing the same type of work as a high school graduate?
   _____Always
   _____Often
   _____Sometimes
   _____Rarely
   _____Never

5. How frequently is an employee's educational background taken into account when he is considered for promotion?
   _____Always
   _____Often
   _____Sometimes
   _____Rarely
   _____Never

6. Are you able to locate and hire college-educated people to fill all of the positions for which you desire them?
   _____Yes
   _____No

   If not, for what occupations have you had difficulty finding appropriate college-educated applicants?

   _____ _____

   _____ _____

7. In general, does a liberal arts/social science or education graduate have more chance of obtaining a job with you if he has had some courses of a business or technical nature?
   _____Yes
   _____No

The following two questions deal with a number of characteristics of potential employees. Please indicate how these characteristics influence a person's general employability with your company by using the following code.

1 = Strong positive influence
2 = Mild positive influence
3 = Minor or no influence
4 = Mild negative influence
5 = Strong negative influence
6 = Unfamiliar with program

8. How would each of the following college major fields of study influence a person's general employability with your company? (Place the appropriate number in each space.)
   _____Two year degree in business & commerce technologies
   _____Two year degree in data processing technologies
   _____Two year degree in mechanical & engineering technologies
   _____Bachelor's degree in business, accounting, or management
   _____Bachelor's degree in science (biological & physical)
   _____Bachelor's degree in engineering or technology
   _____Bachelor's degree in the liberal arts or social science
   _____Bachelor's degree in mathematics or computer science
   _____Bachelor's degree in education

9. Using the same set of possible responses, how would each of the following types of experience influence a person's general employability with your company? (Place the appropriate number in each space.)
   _____Full-time job during college not related to prospective employment
   _____Summer job related to prospective employment
   _____Officer in the military
   _____Enlisted person in the military
   _____A year or more full-time work experience between years of college not related to prospective employment
   _____A year of travel
   _____Peace Corps or Vista experience
   _____Volunteer job related to prospective employment

10. For what jobs do you employ, or would you prefer to employ college graduates?

    _____ _____

    _____ _____

Thank you for your cooperation.

If you would like to receive a copy of the report of this study, please complete the lines below:

Your name: _____

Company name: _____

APPENDIX A

METHODOLOGY

The Problem

The problem of this study was to assess the preferences of major employers in Indiana regarding college-level education for new hires.

A review of literature revealed that this information was unavailable for Indiana, and that few studies of this nature had been conducted nationwide in recent years. The Indiana Employment Security Division (I.E.S.D), the Indiana State Chamber of Commerce, and the Indiana Manufacturers Association were consulted in order to determine the degree of need for the study and the feasibility of successfully completing it. It was advised that such information would be of value, but that a mailed questionnaire would probably provide data of limited utility. A personal interview methodology was judged to be the best means of obtaining data.

The Sample

Indiana is a major business and industrial state, with a great many companies, both large and small, in the numerous middle-sized or smaller communities of the state as well as in its major urban areas. It would have been impossible, within the resources allotted to this project, to have conducted a statewide interview study. It was therefore decided to include four of Indiana's Planning and Development Regions (Regions 1, 3, 8, and 13: See map on page 4) which would be representative of both the geographic and the business and industrial composition of the state. According to the figures of the I.E.S.D., these four Regions contained 55 percent of the projected 1980 total employment in Indiana.[1]

The sample was also limited to include only companies of one hundred or more personnel. This limitation was imposed because smaller companies would have had difficulty relating to many questions concerning specific occupations, and because a sample including smaller companies would have been less reliable in representing their population. In the report of a 1967 interview survey of approximately 300 employers in the San Francisco Bay Area, Gordon and Thal-Larsen stated that, by restricting their sample to employers of 100 or more personnel, they would cover a larger volume of employment than if smaller companies were included. They also noted "...there is considerable evidence that the larger firms are the pacemakers in terms of employer policies, and that exclusion of small firms would not seriously impair the significance of our results."[2]

It was determined that four interviewers, one in each Region of the study, would conduct seventy interviews apiece over two months and that 280 companies would be interviewed. Table A presents the number of establishments in each of the Regions which met the size criterion and the number of companies sampled in each Region, by size of company.

---

1. Indiana Employment Security Division, Indiana's Interim Manpower Projections 1970-1980, Indianapolis, 1974, Statewide report and reports for Regions 1, 3, 8, and 13.
2. Margaret S. Gordon, Margaret Thal-Larsen, Employers Policies in a Changing Labor Market, Institute of Industrial Relations, University of California, Berkeley, July, 1969, pp. A1-A2.

TABLE A: SURVEY POPULATION OF COMPANIES AND SAMPLE DRAWN, BY REGION AND SIZE OF COMPANIES

Size of Company		Region 1	Region 3	Region 8	Region 13	Total
100-249	N*	149	139	319	88	695
Employees	n**	48	52	35	44	180
	n/N%***	32.2	38.1	11.0	50.0	25.9
250-499	N	67	41	69	32	209
Employees	n	63	28	24	30	145
	n/N%	94.0	68.3	34.8	93.8	69.4
500-999	N	23	25	43	20	111
Employees	n	23	25	21	20	89
	n/N%	100.0	100.0	48.8	100.0	80.2
1,000+	N	15	12	30	4	61
Employees	n	15	12	30	4	61
	n/N%	100.0	100.0	100.0	100.0	100.0
Total	N	254	217	461	144	1,076
	n	149	118	110	98	475
	n/N%	58.7	54.4	23.9	68.1	44.1

*N = all companies meeting size and geographic criteria.
**n = number of companies included in survey sample.
***n/N% = percentage of populations of companies included in sample.

The survey sample was drawn in such a manner as to include all companies in the four Regions with one thousand or more employees and, in three of the Regions, all companies of 500-999 personnel. The remaining sample members were drawn from the two smaller size categories randomly and stratified by type of business or industry, with a higher percentage of population drawn from the companies employing 250-499 personnel. Names, addresses, and size ranges of the companies were obtained through the cooperation of the Research and Statistics Section of the I.E.S.D.

Contact with Sample Members

The initial correspondence with sample members concerning the survey was from a selected Chamber of Commerce in their Region.* These letters expressed support for the goals of the study and encouraged participation. A letter from the Commission for Higher Education followed, explaining the study and requesting participation and the identification of the person to be interviewed. A response card was enclosed with this letter. After about three weeks a second mailing to nonrespondents was conducted. Correspondence was addressed to either the chief executive or the head of personnel at each company.

*Chambers of Commerce in Hammond, Fort Wayne, Indianapolis, and Evansville were contacted and cooperated in this manner.

Upon receipt of the identification of the person to be interviewed, a letter of acknowledgement was sent to that person explaining that he would be contacted by the interviewer to set up a time and place for the interview. Correspondence from the Commission to the companies is contained in Appendix C.

Development of the Interview Format

The Commission had its own needs for information concerning the problem area of this study. Discussions with the representatives of the I.E.S.D., the Indiana Chamber of Commerce, and the Indiana Manufacturers Association aided in identifying additional areas of concern. A review of related literature provided further topics of potential interest.

A draft of an interview format was prepared and pre-tested with companies in Columbus, Indiana. The instrument was revised accordingly and pre-tested with companies in Bloomington, Indiana. This instrument was again revised and sent to a number of people knowledgeable in the area of manpower research. Their comments were considered and the interview format was finalized.

Interview Process

Four Indiana University graduate students were selected as full-time interviewers for a period of two months. Each attended a rigorous two-day training session and then was assigned one of the four Regions. They contacted the identified interviewee to arrange a time and place for the session. Permission was granted, in nearly all cases, for the interview to be recorded on cassette tape. The interviewers, at a later time, transcribed the interviews from tape to transcription forms which were sent to the Commission on a weekly basis for analysis. This process provided a means of monitoring the study activities on a continuing basis.

Mailed Questionnaire Survey of Employers of 50-99 Personnel

It was recognized that the opinions and practices of smaller companies concerning the demand for college graduates are also important. For this reason a short questionnaire, based upon questions of the interview format, was developed to survey companies employing 50-99 personnel. The findings of this survey are presented on pages 51-57 of this report.

APPENDIX B

INTERVIEW FORMAT

INTRODUCTION*

The Indiana Commission for Higher Education is a state agency, responsible for coordinating the efforts of public postsecondary educational institutions in Indiana while taking into account the programs and resources of the private sector. The Commission has received a grant from the Lilly Endowment to conduct a manpower study for college graduates and the survey represents an attempt to determine the relationships between college education and jobs from the perspectives of the employers. The findings of the study will receive a broad distribution and should be of value to the Commission, to colleges, universities, and their students, and to the employers themselves as students become more aware of hiring preferences.

I would like to record our interview on cassette tape, if you do not object. This will enable you to speak at greater length concerning any issue, and it makes for a more comfortable interview since I won't be continually writing. Your responses will be transcribed and your recording erased. No individual's responses will be identified and all such responses are entirely confidential.

During June and July persons such as yourself at approximately 300 Indiana businesses and industries are being interviewed. Because of the wide range of types and sizes of companies being studied, some questions are of a general nature. In these cases, please give the response which is most often true. Also, feel free to comment subjectively upon any answer. Do you have any questions at this point?

---

*This brief introduction was spoken by the interviewer at the initiation of the formal interview.

RESPONSE GUIDE

OCCUPATIONAL CATEGORIES	OCCUPATIONS
Professional, Technical, and Kindred	1. Engineers (technical) 2. Life and physical scientists 3. Technicians (science & engineering) 4. Computer specialists 5. Accountants 6. Personnel and labor relations workers 7. Writers and artists (designers, photographers, editors, reporters, public relations workers)
Managers, Officials, and Proprietors	8. Bank officers and financial managers 9. Buyers and purchasing agents 10. Sales managers and department heads
Sales Workers	11. Sales representatives (include advertising agents, insurance agents, brokers, exclude clerks)
Clerical Workers	12. Secretaries and stenographers
Craftsmen, Foremen, and Kindred	13. Foremen

DEGREE LEVELS	ASSOCIATE DEGREES
1. High school diploma or less 2. Some college, no degree 3. Associate (two year) degree 4. Bachelor's degree 5. Master's degree 6. Doctorate or professional degree	1. Business and commerce technologies 2. Data processing technologies 3. Mechanical and engineering technologies
	BACHELOR'S AND HIGHER DEGREES
	1. Business/accounting/management 2. Science (biological & physical) 3. Engineering/technology 4. Liberal arts/social sciences 5. Mathematics/computer science 6. Education

FREQUENCY LEVELS
Always Often Sometimes Rarely Never

INFLUENCE LEVELS
Strong positive influence Mild positive influence Minor or no influence Mild negative influence Strong negative influence

QUESTIONS

Hand interviewee response guide and explain its contents

1. Are there any occupations on this list which are not represented in your company? They will be excluded from further discussion.

   Are there any occupations in which you employ a significant number of college graduates that are not mentioned on the list?

2. Throughout our discussion we will be speaking of new hires to entry-level positions. Is previous job-related full-time experience required for new hires to any of the occupations on the list?

   What educational levels and areas of study are preferred for new hires to each of these occupations? If possible, please use the degree levels and areas of study as noted on the response sheet.

3. What are the preferred educational levels and areas of study for new hires to each of the listed occupations? In answering the question assume that you are speaking about individuals with little or no full-time job-related experience.

4. Do you foresee changes in your educational preferences, either by degree level or area of study, to any of these occupations over the next few years? (three to four years)

5. Do you anticipate that over the next two years your firm will significantly increase or decrease the overall number of people employed in any of these occupations? (May include changes in occupational structure and/or growth or decline of firm's employment)

6. Are you able to locate and hire educationally qualified people to fill all of your positions for the listed occupations? (List any with apparent trained manpower shortages)

* * * * *

7. Do you have any suggestions concerning ways that colleges and universities can improve the manner in which they prepare students to meet the needs of employers? We are interested in any general suggestions you have or in suggestions which relate to specific occupational categories.

8. What would you estimate to be the percentage of your current employees who are college graduates? (Bachelor's degree or higher)

   ____0 - 5%
   ____6 - 10%
   ____11 - 20%
   ____21 - 40%
   ____More than 40%

9. Would you estimate that this percentage is going to increase, decrease, or stay the same over the next few years?

10. Does a liberal arts/social science or education graduate have more of a chance of obtaining a job with you if he has had some college courses of business or technical nature?

    (If yes) What types of skills would be most helpful for these people in seeking employment with your company?

11. Do you think a person should start out in a job where he or she is underemployed in order to demonstrate promotability? By underemployed, I mean working at levels below education and/or experience would indicate. (Probe)

12. What percentage of your annual new employees would you estimate are underemployed?

    ____0-10%
    ____11-25%
    ____26-50%
    ____51-75%
    ____76-100%

13. In general, which of the following educational backgrounds would be considered most desirable for a position which required no more than a high school diploma? Assume that all will work for the same salary. (Probe)

    ____High school diploma
    ____Some college but no degree
    ____Associate degree (Two-year college)
    ____Bachelor's degree

14. If you had a job opening requiring a bachelor's degree, would you prefer to hire a master's degree recipient if he or she were willing to work for the same wage?

    Would you show preference to a bachelor's recipient, would it make no difference, or would you show preference to a master's recipient?

15. How frequently are you willing to pay more to a college graduate for doing the same type of work as a high school graduate? Always, often, sometimes, rarely, or never?

16. How frequently is an employee's educational background taken into account when he is considered for promotion to managerial or professional levels of occupation? Always, often, sometimes, rarely, or never?

17. (If yes) Is educational background a very important factor, an important factor, or is it of minor importance in consideration for promotion to managerial or professional levels of occupation?

18. Do you provide external educational opportunities for your employees?

    For whom?
    Where?
    Tuition reimbursement (percentage)?
    Job-related or any program?
    Degrees available?

19. If you were speaking to a college freshman who wanted to pursue a career with your company, what would be the one best piece of advice you could give him?

* * * * *

The following series of questions deals with a number of characteristics of potential employees. Would you please indicate your reactions regarding how these characteristics influence a person's general employability with your company by telling me whether they would have a:

1. Strong positive influence
2. Mild positive influence
3. Minor or no influence
4. Mild negative influence
5. Strong negative influence

20. How would each of the following college major fields of study influence a person's general employability with your company?

    A. Associate degrees
        1. Business and commerce technologies
        2. Data processing technologies
        3. Mechanical and engineering technologies

    B. Bachelor's degrees and higher
        1. Business/accounting/management
        2. Science (biological and physical)
        3. Engineering/technology
        4. Liberal arts/social sciences
        5. Mathematics/computer sciences
        6. Education

21. Using the same set of possible responses, how would each of the following types of work experience influence a person's general employability with your company?

    A. Full-time job during college not related to prospective employment
    B. Summer job related to prospective employment
    C. Officer in the military
    D. Enlisted person in the military
    E. A year or more full-time work experience between years of college not related to prospective employment
    F. Part-time job during college not related to prospective employment
    G. A year of travel
    H. Peace Corps or Vista experience
    I. Volunteer job related to prospective employment

* * * * *

We recognize that a number of factors can be taken into account in the evaluation of employment applications. We hope to identify the relative importance of each of these factors, particularly as they relate to the different occupational categories. In concluding the interview, would you please take a few minutes to complete each of these checklists; there is one for each category included in the study.

Occupational Category*	Very Important	Important	Minor Importance	Not Considered
Communication skills (speaking and writing)				
College grades				
Prestige of college attended				
Recommendations of teachers				
Major field of study				
Personal appearance				
Degree received or years of college				
Previous work experience				
Impression of personality				
Career goals				
Familiarity with your company				
College extracurricular activities				
Recommendations of former employers				

*Categories included 1)professional, technical, kindred 2)managers and officials 3)sales workers 4)clerical workers 5)foremen

APPENDIX C

CORRESPONDENCE FROM COMMISSION TO SAMPLE COMPANIES

VAN P. SMITH
CHAIRMAN
MUNCIE
BEURT SERVAAS
VICE CHAIRMAN
INDIANAPOLIS
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SECRETARY
MARTINSVILLE
ROBERT D. ANDERSON
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FREDERICK T. BAUER
TERRE HAUTE
JOHN R. BENBOW
INDIANAPOLIS
GEORGE DOUP
COLUMBUS
GRANT W. HAWKINS
INDIANAPOLIS
CURTIS E. HUBER
EVANSVILLE
IRVING L. LEWIN
HAMMOND
SAMUEL A. REA
FORT WAYNE
FRANK VITE
ELKHART

STATE OF INDIANA
COMMISSION FOR HIGHER EDUCATION
143 WEST MARKET STREET
INDIANAPOLIS, INDIANA 46204
317-[illegible]

DR. RICHARD D. GIBB
COMMISSIONER

(LETTER REQUESTING PARTICIPATION)

Dear Sir:

The Indiana Commission for Higher Education is a state agency responsible for the coordination of public post-secondary education institutions in the state, and is charged to take the private institutions' resources into account in its planning. In order to assist in its planning efforts, the Commission is conducting a major study of college-level manpower supply and demand for Indiana. We are asking your assistance in this study.

A complex problem we face involves identifying the relationships between college degree recipients and the types of jobs available to them after graduation. In order to resolve this difficulty the Commission is undertaking an interview survey of a sample of major business and industrial firms in Indiana. The interview method is being used because it is a more precise method of obtaining the type of information we need than is the mailed questionnaire method. The purpose of the study is to identify employers' educational requirements and preferences for new employees in selected occupations which are frequently represented by college graduates. The findings will be used to aid the Commission in evaluating new degree program proposals, to help colleges and universities identify needed program areas, to enable students to prepare better for the world of work and to provide companies with a better understanding of students' and employers' attitudes toward collegiate preparation for career choices.

Your firm has been included in our carefully selected sample of companies operating in Indiana which are representative in type and size of the state's businesses and industries. The interviews will be conducted in the summer of 1975 and should require no more than one hour with you or one of your staff members who is knowledgeable of your firm's hiring practices.

We have discussed the nature of our survey of employers with the Indiana Chamber of Commerce and the Indiana Manufacturing Association, and they have supported our view that such a study would be of value. We have also worked with the Indiana Employment Security Division in designing the study.

The results of this study will not reveal the identity of the individual participating companies and all information obtained from the interviews will be treated in a confidential manner. The Commission is highly interested in keeping employers' needs in mind as it seeks to coordinate and improve the educational offerings within the state. We hope that your company will assist the Commission in achieving the worthwhile objectives of this study.

Would you complete the enclosed postcard and return it to us at your earliest convenience. We would be pleased to answer any questions you may have concerning this survey.

Cordially,

Robert Greenberg, Ed. D.
Project Director - Manpower

RG/vb

(RESPONSE POSTCARD)

Return Address of Company

Indiana Commission for
Higher Education
143 W. Market Street
Indianapolis, Indiana 46204

YOUR NAME: _____

Please check the appropriate space below and fill in the requested information:

_____ Yes, we would like to participate in the survey of employers. The person to be interviewed is _____.

Business phone number of interviewee:
Area code_____ No. _____

_____ No, we do not want to be included in the survey of employers.

VAN P. SMITH
CHAIRMAN
MUNCIE
BEURT SERVAAS
VICE CHAIRMAN
INDIANAPOLIS
MRS. WILLIAM G. BRAY
SECRETARY
MARTINSVILLE
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ELKHART

STATE OF INDIANA
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317-633-6474

DR. RICHARD D. GIBB
COMMISSIONER

(FOLLOW-UP LETTER)

Dear Sir:

Several weeks ago we sent you a letter requesting the participation of your firm in the Commission for Higher Education's survey of employers. We are examining employers' preferences concerning the educational backgrounds of employees, and the study affords a rare opportunity for direct communication between Indiana's businesses and its postsecondary education institutions. The information reported in the study should be of value to colleges and their students, and to businesses and industries, as well as aiding the Commission in its planning capacity.

Your firm was included in the representative sample for the study. Even if you employ very few college graduates we would like to interview a representative of your firm regarding education and hiring preferences. Interviews, to be conducted in June and July by trained interviewers, will require approximately 45 minutes of the time of an individual familiar with your company's hiring preferences. Strict confidentiality of information will be observed concerning all individuals' responses.

I have included another response card with this letter. Would you please indicate if your firm will participate in the study and, if so, the person to be contacted by an interviewer in June or July.

Thank you for your consideration.

Sincerely,

Robert Greenberg

Robert Greenberg, Ed. D.
Project Director - Manpower

RG:ss

83

VAN P. SMITH
CHAIRMAN
MUNCIE
DEURT SERVAAS
VICE CHAIRMAN
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DR. RICHARD D. GIBB
COMMISSIONER

(ACKNOWLEDGEMENT TO INTERVIEWEE)

We are pleased that your firm has expressed willingness to participate in the Commission for Higher Education's survey of employers, and that you have been identified as the person to be interviewed. The interview questions will pertain to your firm's preferences regarding the educational backgrounds of new employees. The study offers a rare opportunity for direct communication between Indiana's employers and the postsecondary education system, and the results should be of value to both. If you have any questions concerning the nature or objectives of the study, feel free to contact me by mail or telephone.

You will receive a call some time in June or July from one of our interviewers to set up a time convenient to yourself. Thanks again to you and your firm for your willingness to cooperate with our efforts.

Sincerely,

Robert Greenberg

Robert Greenberg, Ed. D.
Project Director - Manpower

RG:ss